```
=> fil reg
FILE 'REGISTRY' ENTERED AT 09:01:34 ON 24 JUN 2004
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
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Property values tagged with IC are from the ZIC/VINITI data file
provided by InfoChem.

STRUCTURE FILE UPDATES:   23 JUN 2004  HIGHEST RN 698346-19-9
DICTIONARY FILE UPDATES:  23 JUN 2004  HIGHEST RN 698346-19-9

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 6, 2004

  Please note that search-term pricing does apply when
  conducting SmartSELECT searches.

Crossover limits have been increased.  See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more
information enter HELP PROP at an arrow prompt in the file or refer
to the file summary sheet on the web at:
http://www.cas.org/ONLINE/DBSS/registryss.html

=> d stat que l15
L9   (     11876)SEA FILE=REGISTRY C5-C6/ES AND 46.150.1/RID
L10             STR
```
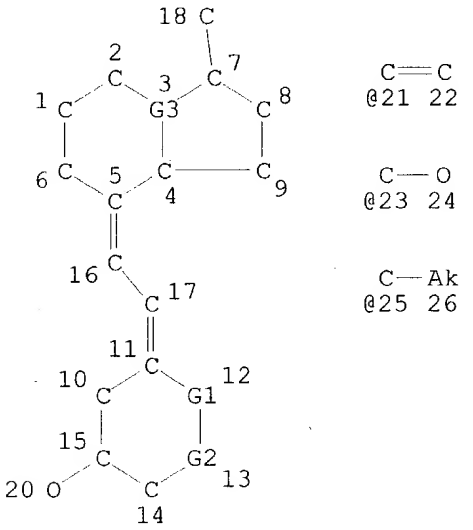
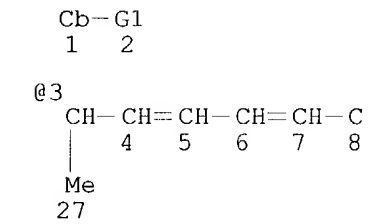
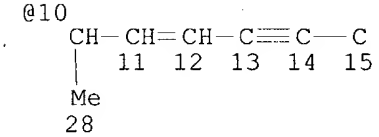
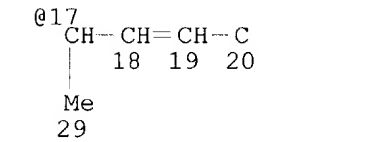



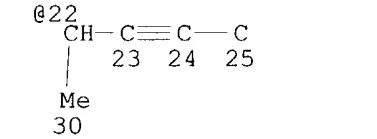

```
VAR G1=C/21
VAR G2=C/23
VAR G3=C/25
NODE ATTRIBUTES:
CONNECT IS M1  RC AT  18
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RSPEC I
NUMBER OF NODES IS  25
```

STEREO ATTRIBUTES: NONE
L11 (3422)SEA FILE=REGISTRY SUB=L9 CSS FUL L10
L12 STR





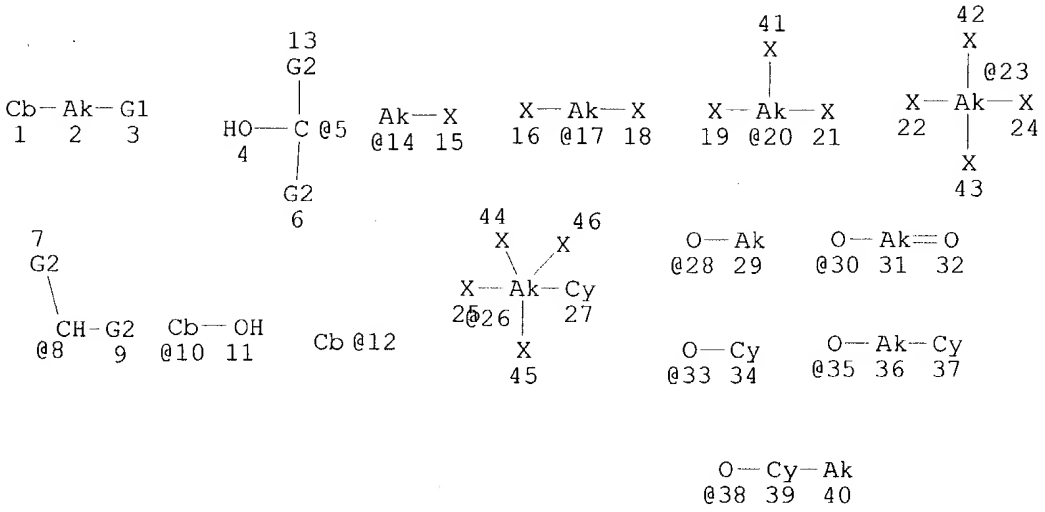




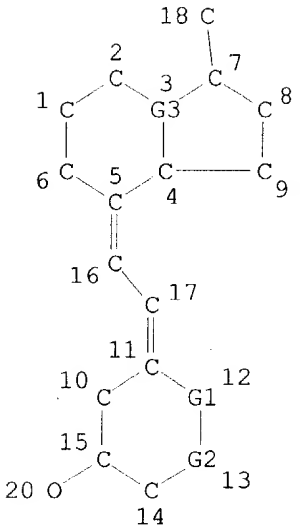
VAR G1=3/10/17/22
NODE ATTRIBUTES:
NSPEC IS RC AT 8
NSPEC IS RC AT 15
NSPEC IS RC AT 20
NSPEC IS RC AT 25
DEFAULT MLEVEL IS ATOM
GGCAT IS PCY AT 1
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 26

STEREO ATTRIBUTES: NONE
L13 (1202)SEA FILE=REGISTRY SUB=L11 SSS FUL L12
L14 STR




```
VAR G1=5/8/10/12
VAR G2=H/OH/AK/14/17/20/23/26/28/30/33/35/CB/38
NODE ATTRIBUTES:
CONNECT IS M2  RC AT   1
DEFAULT MLEVEL IS ATOM
GGCAT   IS PCY  AT   1
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS  46

STEREO ATTRIBUTES: NONE
L15         245 SEA FILE=REGISTRY SUB=L13 CSS FUL L14

100.0% PROCESSED   1202 ITERATIONS                          245 ANSWERS
SEARCH TIME: 00.00.01


=> d stat que l18
L4   (     11876)SEA FILE=REGISTRY C5-C6/ES AND 46.150.1/RID
L5              STR
```



C═C
@21 22

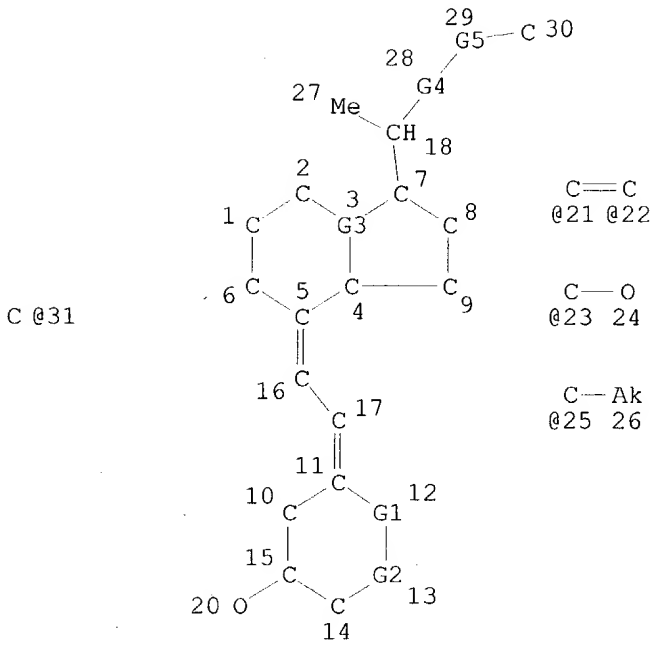
C—O
@23 24

C—Ak
@25 26

VAR G1=C/21
VAR G2=C/23
VAR G3=C/25
NODE ATTRIBUTES:
CONNECT IS M1 RC AT 18
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RSPEC I
NUMBER OF NODES IS 25

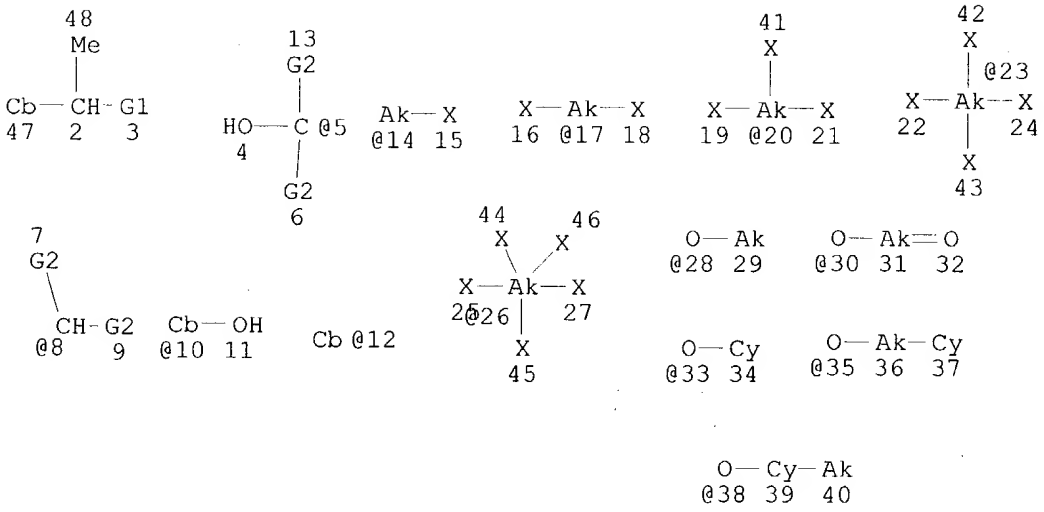
STEREO ATTRIBUTES: NONE
L6 (3422)SEA FILE=REGISTRY SUB=L4 CSS FUL L5
L7 STR



VAR G1=C/21
VAR G2=C/23
VAR G3=C/25
REP G4=(0-1) 21-18 22-29
REP G5=(0-7) 31
NODE ATTRIBUTES:
NSPEC IS RC AT 30
CONNECT IS M1 RC AT 30
CONNECT IS M1 RC AT 31
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RSPEC I
NUMBER OF NODES IS 30

STEREO ATTRIBUTES: NONE
L8 3051 SEA FILE=REGISTRY SUB=L6 CSS FUL L7
L16 STR



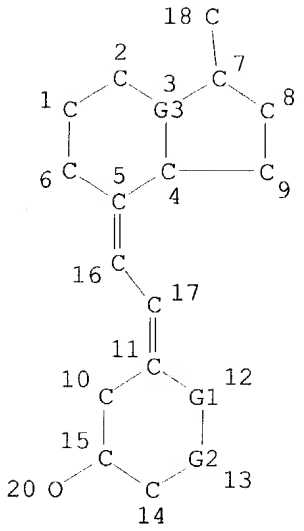
VAR G1=5/8/10/12
VAR G2=H/OH/AK/14/17/20/23/26/28/30/33/35/CB/38
NODE ATTRIBUTES:
CONNECT IS M2 RC AT 47
DEFAULT MLEVEL IS ATOM
GGCAT IS PCY AT 47
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 47

STEREO ATTRIBUTES: NONE
L18 182 SEA FILE=REGISTRY SUB=L8 CSS FUL L16

100.0% PROCESSED 3051 ITERATIONS 182 ANSWERS
SEARCH TIME: 00.00.01

=> d stat que l21
L4 (11876)SEA FILE=REGISTRY C5-C6/ES AND 46.150.1/RID
L5 STR



C═C
@21 22

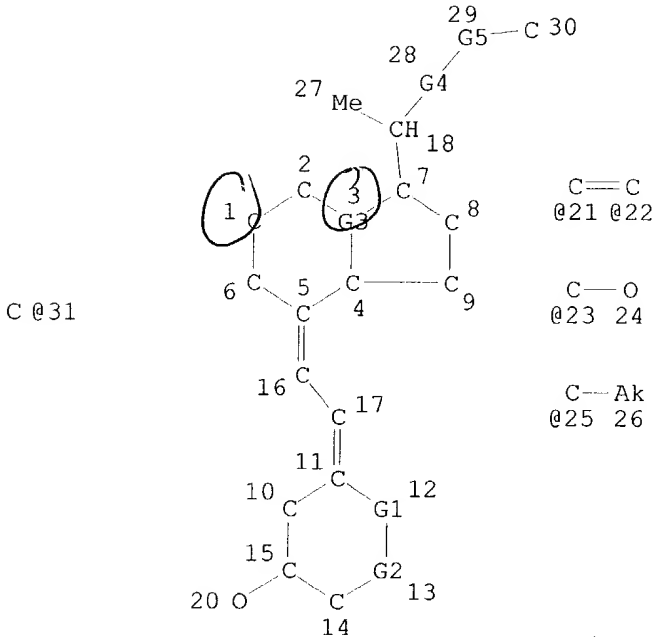
C—O
@23 24

C—Ak
@25 26

VAR G1=C/21
VAR G2=C/23
VAR G3=C/25
NODE ATTRIBUTES:
CONNECT IS M1 RC AT 18
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RSPEC I
NUMBER OF NODES IS 25

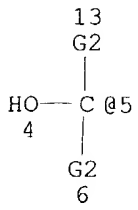
STEREO ATTRIBUTES: NONE
L6 (3422)SEA FILE=REGISTRY SUB=L4 CSS FUL L5
L7 STR

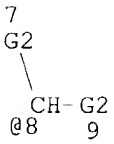


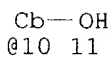
VAR G1=C/21
VAR G2=C/23
VAR G3=C/25
REP G4=(0-1) 21-18 22-29
REP G5=(0-7) 31
NODE ATTRIBUTES:
NSPEC IS RC AT 30
CONNECT IS M1 RC AT 30
CONNECT IS M1 RC AT 31
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

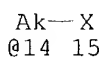
GRAPH ATTRIBUTES:
RSPEC I
NUMBER OF NODES IS 30

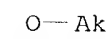
STEREO ATTRIBUTES: NONE
L8 3051 SEA FILE=REGISTRY SUB=L6 CSS FUL L7
L19 STR

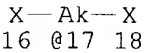


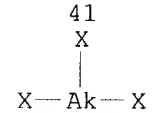


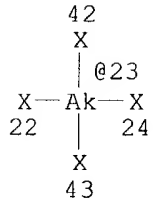


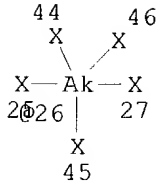


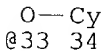


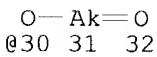


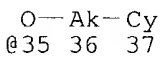


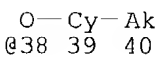


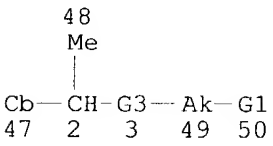


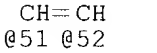












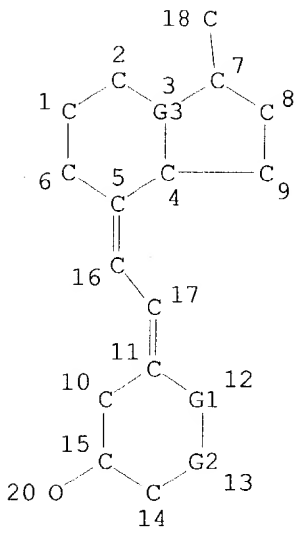
VAR G1=5/8/10/12
VAR G2=H/OH/AK/14/17/20/23/26/28/30/33/35/CB/38
REP G3=(0-1) 51-2 52-49
NODE ATTRIBUTES:
CONNECT IS M2 RC AT 47
DEFAULT MLEVEL IS ATOM
GGCAT IS PCY AT 47
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 51

STEREO ATTRIBUTES: NONE
L21 823 SEA FILE=REGISTRY SUB=L8 CSS FUL L19

100.0% PROCESSED 3051 ITERATIONS 823 ANSWERS
SEARCH TIME: 00.00.01

=> d stat que l24
L4 (11876)SEA FILE=REGISTRY C5-C6/ES AND 46.150.1/RID
L5 STR



C═C
@21 22

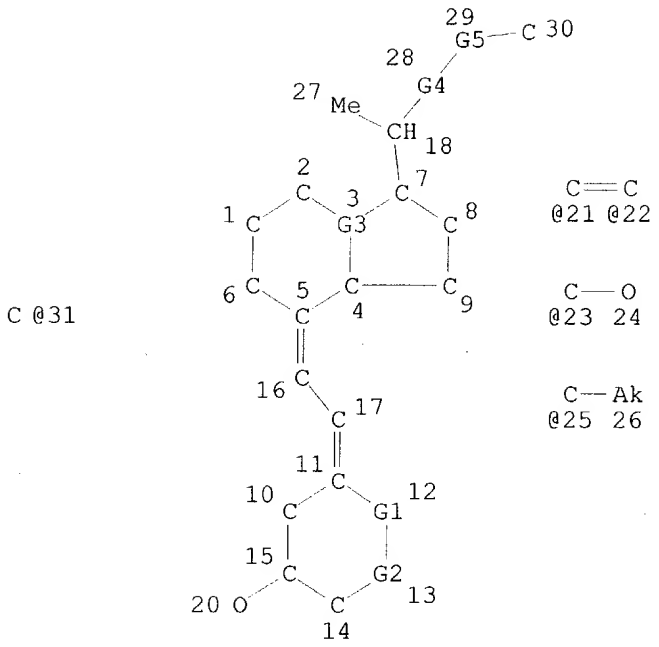
C—O
@23 24

C—Ak
@25 26

VAR G1=C/21
VAR G2=C/23
VAR G3=C/25
NODE ATTRIBUTES:
CONNECT IS M1 RC AT 18
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RSPEC I
NUMBER OF NODES IS 25

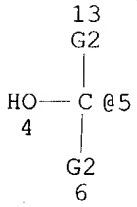
STEREO ATTRIBUTES: NONE
L6 (3422)SEA FILE=REGISTRY SUB=L4 CSS FUL L5
L7 STR

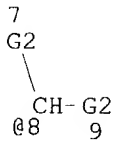


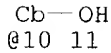
VAR G1=C/21
VAR G2=C/23
VAR G3=C/25
REP G4=(0-1) 21-18 22-29
REP G5=(0-7) 31
NODE ATTRIBUTES:
NSPEC IS RC AT 30
CONNECT IS M1 RC AT 30
CONNECT IS M1 RC AT 31
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

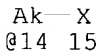
GRAPH ATTRIBUTES:
RSPEC I
NUMBER OF NODES IS 30

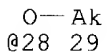
STEREO ATTRIBUTES: NONE
L8 3051 SEA FILE=REGISTRY SUB=L6 CSS FUL L7
L22 STR

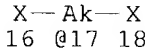


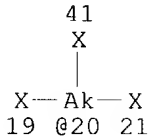


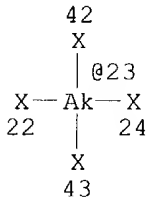


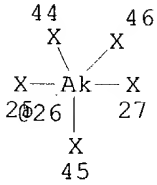


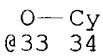


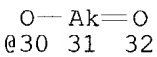


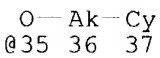


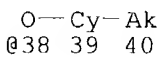


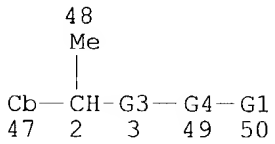


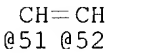


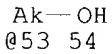


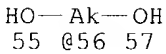












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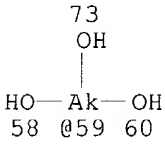

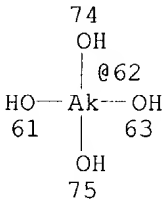

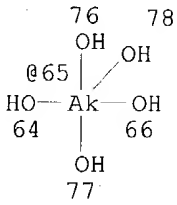

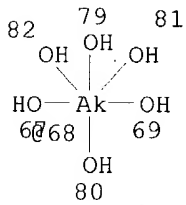

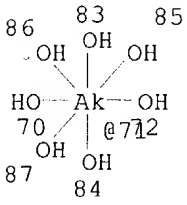

Page 2-A
VAR G1=5/8/10/12
VAR G2=H/OH/AK/14/17/20/23/26/28/30/33/35/CB/38
REP G3=(0-1) 51-2 52-49
VAR G4=53/56/59/62/65/68/71
NODE ATTRIBUTES:
CONNECT IS M2 RC AT 47
DEFAULT MLEVEL IS ATOM
GGCAT IS PCY AT 47
DEFAULT ECLEVEL IS LIMITED

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GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS  86

STEREO ATTRIBUTES: NONE
L24         708 SEA FILE=REGISTRY SUB=L8 CSS FUL L22

100.0% PROCESSED   3051 ITERATIONS                          708 ANSWERS
SEARCH TIME: 00.00.01


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     FILE 'REGISTRY' ENTERED AT 07:06:45 ON 24 JUN 2004
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L1   (     11876)SEA FILE=REGISTRY C5-C6/ES AND 46.150.1/RID
L2              STR
L3          3422 SEA FILE=REGISTRY SUB=L1 CSS FUL L2
              ---------
               ACT HUY636FUL2/A
              ---------
L4   (     11876)SEA FILE=REGISTRY C5-C6/ES AND 46.150.1/RID
L5              STR
L6   (      3422)SEA FILE=REGISTRY SUB=L4 CSS FUL L5
L7              STR
L8          3051 SEA FILE=REGISTRY SUB=L6 CSS FUL L7
              ---------
               ACT HUY636SUBA1/A
              ---------
L9   (     11876)SEA FILE=REGISTRY C5-C6/ES AND 46.150.1/RID
L10             STR
L11  (      3422)SEA FILE=REGISTRY SUB=L9 CSS FUL L10
L12             STR
L13  (      1202)SEA FILE=REGISTRY SUB=L11 SSS FUL L12
L14             STR
L15          245 SEA FILE=REGISTRY SUB=L13 CSS FUL L14
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L16             STR L14
L17           7 S L16 CSS SAM SUB=L8
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                SAVE TEMP HUY636SUBA2/A L18
L19             STR L16
L20          36 S L19 CSS SAM SUB=L8
L21         823 S L19 CSS FUL  SUB=L8
                SAVE TEMP L21 HUY636SUBA3/A
L22             STR L19
L23          27 S L22 CSS SAM SUB=L8
L24         708 S L22 CSS FUL  SUB=L8
                SAVE TEMP L24 HUY636SUBA4/A
L25        1087 S L15 OR L18 OR L21 OR L24
L26         100 S L25 AND NC>=2
L27         987 S L25 NOT L26

     FILE 'HCAPLUS' ENTERED AT 08:04:11 ON 24 JUN 2004
L28       19505 S L27
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L29          132 S L26
L30          114 S L29 AND (PD<=19980213 OR PRD<=19980213 OR AD<=19980213)
L31          112 S L29 AND (PD<=19970213 OR PRD<=19970213 OR AD<=19970213)
L32        15127 S L28 AND (PD<=19970213 OR PRD<=19970213 OR AD<=19970213)
L33        15190 S L31 OR L32
L34            2 S US20020136731/PN
L35            1 S L34 AND L33
L36            1 S L34 NOT L35

     FILE 'REGISTRY' ENTERED AT 08:16:14 ON 24 JUN 2004
                E POLYASPART/CN

     FILE 'HCAPLUS' ENTERED AT 08:16:15 ON 24 JUN 2004

     FILE 'REGISTRY' ENTERED AT 08:16:41 ON 24 JUN 2004
                E POLYASPART/CN
L37            6 S 56-84-8 OR 1783-96-6 OR 617-45-8 OR 56-86-0 OR 6893-26-1 OR 6
L38         1045 S (56-84-8 OR 1783-96-6 OR 617-45-8 OR 56-86-0 OR 6893-26-1 OR
L39           12 S L38 AND 1/NC
                E POLYASPART/CN
L40            1 S E7
                E POLYGLUTAM/CN
L41            2 S E11 OR E12
L42           12 S L25 AND P/ELS
                SELECT RN L42 1-2
L43            2 S E1-E2
L44            0 S L25 AND L38
L45            9 S 66376-36-1 OR 89987-06-4 OR 114084-78-5 OR 118072-93-8 OR 53-
                E PHOSPHORIC ACID/CN
L46            1 S E3
                E PHOSPHATE/CN
L47            1 S E3

     FILE 'HCAPLUS' ENTERED AT 08:32:02 ON 24 JUN 2004
L48         1081 S L33 AND (L37 OR L39-L41 OR L45-47)
L49            2 S L43
L50           26 S L33 AND ESTROGENS/CT (L)(ANTIESTROGEN? OR CONJUGATE?)
L51            7 S L33 AND TOXINS/CT (L) PERTUSSIS
L52            3 S L33 AND BONE MORPHOGENETIC PROTEINS/CT
L53           30 S L33 AND TRANSFORMING GROWTH FACTORS/CT
                E OSTEONECTIN/CT
L54            3 S L33 AND E3+NT
                E OSTEOPONTIN/CT
L55           13 S L33 AND E3+NT
                E SIALOPROTEIN/CT
                E E4
                E E3+ALL
L56           85 S L33 AND E1,E2+NT
L57           46 S L33 AND CHELAT?
L58           22 S L48-L57 AND ?CONJUGA?
                E MAZESS R/AU
L59           62 S E3-E6
                E BISHOP C/AU
L60          150 S E3 OR E20 OR E31 OR E41 OR E42
                E BONE CARE/PA,CS
L61           34 S E5-E14
                SELECT RN L34 1-2

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L62          85 S E1-E85
L63          21 S L62 AND L3

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L64       11055 S L63
L65        7955 S L64 AND (PD<=19970213 OR PRD<=19970213 OR AD<=19970213)
L66          49 S L64 AND (L59-L61)
L67           9 S L66 AND ?CONJUGA?
L68          23 S L58 OR L67 OR L34-L36

     FILE 'REGISTRY' ENTERED AT 09:01:34 ON 24 JUN 2004

=> fil hcaplus
FILE 'HCAPLUS' ENTERED AT 09:02:43 ON 24 JUN 2004
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2004 AMERICAN CHEMICAL SOCIETY (ACS)
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FILE COVERS 1907 - 24 Jun 2004  VOL 140 ISS 26
FILE LAST UPDATED: 23 Jun 2004  (20040623/ED)

 This file contains CAS Registry Numbers for easy and accurate
 substance identification.


=> d all hitstr l68 1-23

L68  ANSWER 1 OF 23  HCAPLUS  COPYRIGHT 2004 ACS on STN
AN   2004:182524  HCAPLUS
DN   140:193859
ED   Entered STN:  05 Mar 2004
TI   Method of treating and preventing hyperparathyroidism with active vitamin
     D analogs
IN   Mazess, Richard B.; Strugnell, Stephen A.; Knutson, Joyce C.
PA   Bone Care International, Inc., USA
SO   U.S. Pat. Appl. Publ., 15 pp., Cont.-in-part of U.S. Ser. No. 127,005.
     CODEN: USXXCO
DT   Patent
LA   English
IC   ICM  A61K031-59
NCL  514167000
CC   2-7 (Mammalian Hormones)
FAN.CNT 20
     PATENT NO.        KIND  DATE          APPLICATION NO.  DATE
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PI   US 2004043971      A1   20040304      US 2003-385327   20030310 <--
     US 5602116         A    19970211      US 1995-415488   19950403 <--
     US 5707980         A    19980113      US 1997-798958   19970211 <--
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	US 6376479	B1	20020423	US 2000-501093	20000209	<--
	US 2002183288	A1	20021205	US 2002-127005	20020419	<--
PRAI	US 1995-415488	A1	19950403	<--		
	US 1997-798958	A3	19970211	<--		
	US 1997-907660	B2	19970808			
	US 2000-501093	A2	20000209			
	US 2002-127005	A2	20020419			
	US 1988-227371	B1	19880802	<--		
	US 1990-569412	A1	19900817	<--		
	US 1992-812056	B1	19920305	<--		
	US 1993-119895	A2	19930910	<--		
	US 1997-907659	A2	19970808			
	US 1998-86969	A2	19980529			

OS MARPAT 140:193859

AB This invention relates to a method for treating or preventing hyperthyroidism secondary to chronic kidney disease by administering a sufficient amount of an active vitamin D analog utilizing a variety of effective treatment protocols. Addnl., co-administration of bone resorption inhibitors can be used to further prevent against osteoporosis and other related bone mineral disorders.

ST hyperparathyroidism kidney failure vitamin D analogs bone resorption inhibitor

IT Mineral elements, biological studies
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(bone, loss reduction by agents co-administered with vitamin D analogs; method of treating and preventing hyperparathyroidism with active vitamin D analogs and bone loss inhibitors)

IT Kidney, disease
(chronic, -associated hyperparathyroidism; method of treating and preventing hyperparathyroidism with active vitamin D analogs and bone loss inhibitors)

IT **Estrogens**
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(**conjugated**, co-administered with vitamin D analogs; method of treating and preventing hyperparathyroidism with active vitamin D analogs and bone loss inhibitors)

IT Kidney
(glomerulus, filtration rate in relation to vitamin D treatment; method of treating and preventing hyperparathyroidism with active vitamin D analogs and bone loss inhibitors)

IT Human
Hyperparathyroidism
Osteoporosis
(method of treating and preventing hyperparathyroidism with active vitamin D analogs and bone loss inhibitors)

IT Bone
(minerals, loss reduction by agents co-administered with vitamin D analogs; method of treating and preventing hyperparathyroidism with active vitamin D analogs and bone loss inhibitors)

IT **Toxins**
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(**pertussis**, co-administered with vitamin D analogs; method of treating and preventing hyperparathyroidism with active vitamin D analogs and bone loss inhibitors)

IT Bone
(resorption, inhibitors, agents co-administered with vitamin D analogs as; method of treating and preventing hyperparathyroidism with active

vitamin D analogs and bone loss inhibitors)

IT Bone
(resorption, reduced by agents co-administered with vitamin D analogs; method of treating and preventing hyperparathyroidism with active vitamin D analogs and bone loss inhibitors)

IT Bone formation
(vitamin D analogs-enhanced; method of treating and preventing hyperparathyroidism with active vitamin D analogs and bone loss inhibitors)

IT **14265-44-2**, Phosphate, biological studies
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(binder, co-administered with vitamin D analog; method of treating and preventing hyperparathyroidism with active vitamin D analogs and bone loss inhibitors)

IT 9002-64-6, Parathyroid hormone
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(blood levels in relation to vitamin D treatment; method of treating and preventing hyperparathyroidism with active vitamin D analogs and bone loss inhibitors)

IT **7440-42-8**, Boron, biological studies 7681-49-4, Sodium fluoride, biological studies **13408-78-1**, Cobalamin
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(co-administered with vitamin D analogs; method of treating and preventing hyperparathyroidism with active vitamin D analogs and bone loss inhibitors)

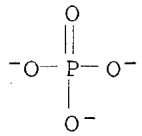
IT 13598-36-2, Phosphonic acid
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(derivs., co-administered with vitamin D analogs; method of treating and preventing hyperparathyroidism with active vitamin D analogs and bone loss inhibitors)

IT 7440-70-2, Calcium, biological studies
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(homeostasis, effect of vitamin D treatment on; method of treating and preventing hyperparathyroidism with active vitamin D analogs and bone loss inhibitors)

IT 1406-16-2D, Vitamin D, analogs **54573-75-0 124043-51-2 156316-85-7**
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(method of treating and preventing hyperparathyroidism with active vitamin D analogs and bone loss inhibitors)

IT **14265-44-2**, Phosphate, biological studies
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(binder, co-administered with vitamin D analog; method of treating and preventing hyperparathyroidism with active vitamin D analogs and bone loss inhibitors)

RN 14265-44-2 HCAPLUS
CN Phosphate (8CI, 9CI) (CA INDEX NAME)

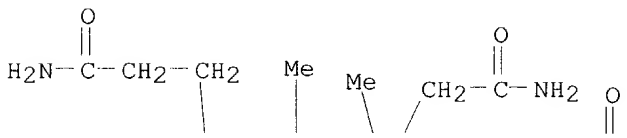


IT **7440-42-8**, Boron, biological studies **13408-78-1**, Cobalamin
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(co-administered with vitamin D analogs; method of treating and preventing hyperparathyroidism with active vitamin D analogs and bone loss inhibitors)
RN 7440-42-8 HCAPLUS
CN Boron (8CI, 9CI) (CA INDEX NAME)

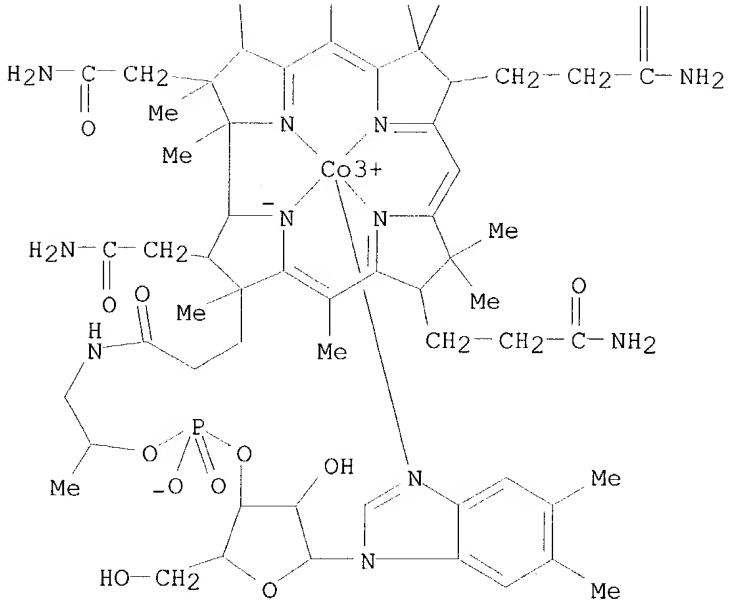
B

RN 13408-78-1 HCAPLUS
CN Cobinamide, dihydrogen phosphate (ester), inner salt, 3'-ester with (5,6-dimethyl-1-α-D-ribofuranosyl-1H-benzimidazole-κN3), ion(1+) (9CI) (CA INDEX NAME)

PAGE 1-A



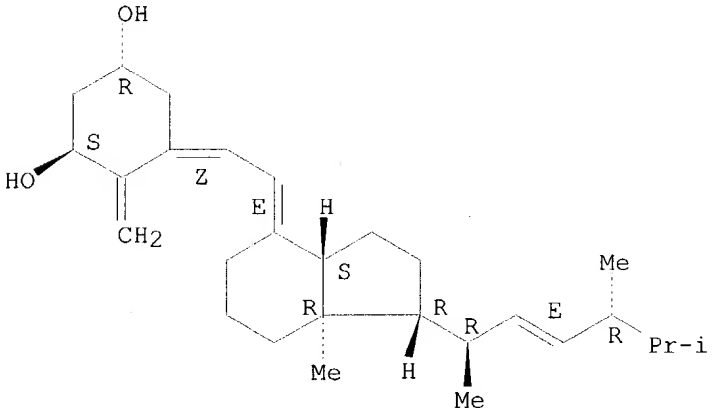
PAGE 2-A



IT **54573-75-0 124043-51-2 156316-85-7**
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(method of treating and preventing hyperparathyroidism with active vitamin D analogs and bone loss inhibitors)

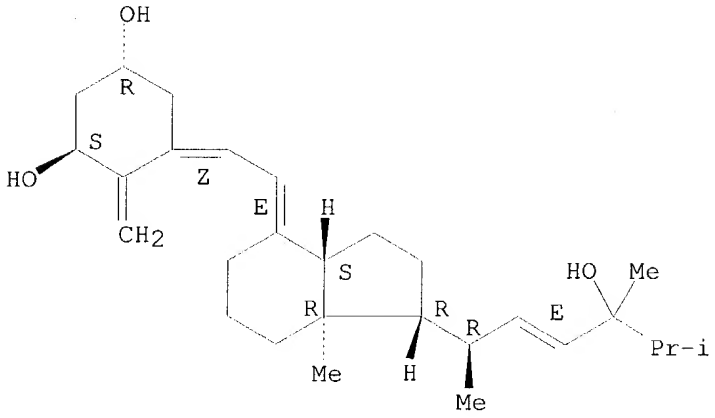
RN 54573-75-0 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19),22-tetraene-1,3-diol, (1α,3β,5Z,7E,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



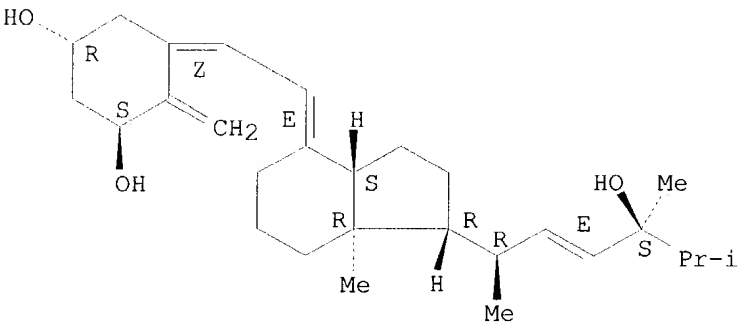
RN 124043-51-2 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19),22-tetraene-1,3,24-triol, (1α,3β,5Z,7E,22E,24ξ)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



RN 156316-85-7 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19),22-tetraene-1,3,24-triol, (1α,3β,5Z,7E,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



L68 ANSWER 2 OF 23 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2003:532131 HCAPLUS
DN 139:101329
ED Entered STN: 11 Jul 2003
TI Targeted therapeutic delivery of vitamin D compounds
IN **Mazess, Richard B.; Bishop, Charles W.**
PA **Bone Care International, Inc., USA**
SO U.S. Pat. Appl. Publ., 28 pp., Cont.-in-part of U.S. Ser. No. 402,636.
CODEN: USXXCO
DT Patent
LA English
IC ICM A61K039-395
ICS A61K031-727; A61K031-66; A61K031-59
NCL 424178100; 514102000; 514167000; 514054000; 514056000
CC 32-7 (Steroids)
Section cross-reference(s): 29, 63
FAN.CNT 2

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PI	US 2003129194	A1	20030710	US 2002-251905	20020920 <--
	WO 9835704	A1	19980820	WO 1998-US2899	19980213 <--
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	RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
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PRAI	US 1997-38364P	P	19970213 <--		
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	US 2000-402636	A2	20000426		

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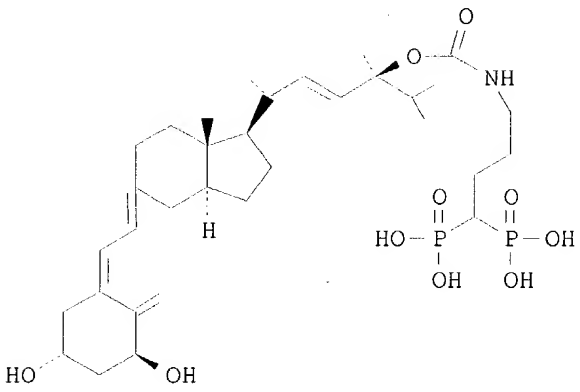


I

AB The present invention is directed to a **conjugate** which includes at least one vitamin D moiety and at least one targeting mol. moiety to pharmaceutical compns. of the **conjugate,** and to methods for using the **conjugate** for target-specific delivery of vitamin D or analogs to tissues. When a particularly preferred form is administered to a patient, the targeting mol. component of the **conjugate** of this invention seeks out and binds to a tissue of interest, such as bone or tumor tissue, where the vitamin D has a therapeutic effect. One example compound prepared was I.

ST vitamin D phosphonate deriv prepn targeted delivery

IT Antitumor agents
Bone
Drug delivery systems
Human
(targeted therapeutic delivery of vitamin D compds.)

IT Vitamin D receptors
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(targeted therapeutic delivery of vitamin D compds.)

IT Antibodies and Immunoglobulins
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(targeted therapeutic delivery of vitamin D compds.)

IT 107-30-2, Chloromethyl methyl ether 70550-73-1 211865-86-0

RL: RCT (Reactant); RACT (Reactant or reagent)
(targeted therapeutic delivery of vitamin D compds.)

IT 81522-68-1P 140710-96-9P 144034-23-1P 211865-87-1P 211865-88-2P
211865-89-3P 211865-90-6P 211865-92-8P
211865-93-9P 211865-94-0P 211865-96-2P 211865-97-3P
211865-98-4P 211865-99-5P 211866-01-2P 211866-02-3P 211866-03-4P
211866-04-5P 211866-06-7P 211866-07-8P **211866-08-9P**
211866-09-0P 211866-11-4P 211866-12-5P 211866-13-6P 211866-15-8P
211866-16-9P 211866-17-0P 211866-19-2P 557072-52-3P
557072-53-4P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(targeted therapeutic delivery of vitamin D compds.)

IT 211865-95-1P
RL: RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(targeted therapeutic delivery of vitamin D compds.)

IT 211866-10-3P
RL: SPN (Synthetic preparation); PREP (Preparation)
(targeted therapeutic delivery of vitamin D compds.)

IT **211865-91-7P** 211866-00-1P 211866-05-6P 211866-14-7P
211866-18-1P **557072-54-5P**
RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(targeted therapeutic delivery of vitamin D compds.)

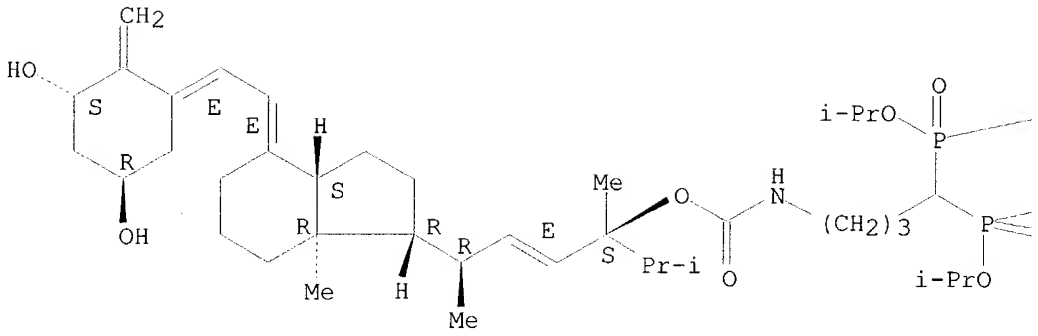
IT 1406-16-2D, Vitamin d, **conjugates** 2809-21-4 10596-23-3
32222-06-3, 1α,25-Dihydroxyvitamin D3 40391-99-9
41294-56-8, 1α-Hydroxyvitamin D3 **54573-75-0**,
1α-Hydroxyvitamin D2 **60133-18-8**, 1α,25-
Dihydroxyvitamin D2 **66376-36-1**, Alendronate **83805-11-2**
, Falecalcitriol **89987-06-4**, Tiludronate **103909-75-7**,
Maxacalcitol 105462-24-6 **112965-21-6**, Calcipotriol
114084-78-5, Ibandronate **118072-93-8**, Zoledronate
124043-51-2, 1α,24-Dihydroxyvitamin D2 **131249-38-2**
, 1α,25-Dihydroxyvitamin D4 **131918-61-1**, Paricalcitol
134404-52-7, Seocalcitol **157893-62-4**,
1α,24-Dihydroxyvitamin D4
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(targeted therapeutic delivery of vitamin D compds.)

IT **211865-89-3P 211865-90-6P 211865-93-9P**
211866-08-9P 557072-53-4P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(targeted therapeutic delivery of vitamin D compds.)

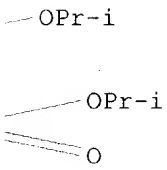
RN 211865-89-3 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19),22-tetraene-1,3,24-triol, 24-[[4,4-bis[bis(1-methylethoxy)phosphinyl]butyl]carbamate], (1α,3β,5E,7E,22E)-
(9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A

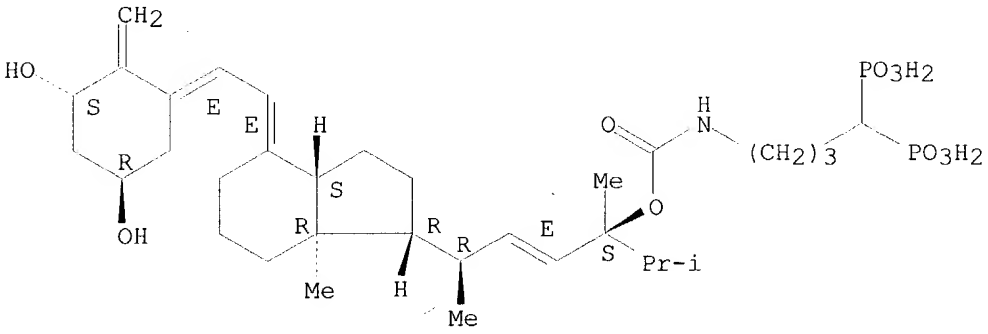


PAGE 1-B



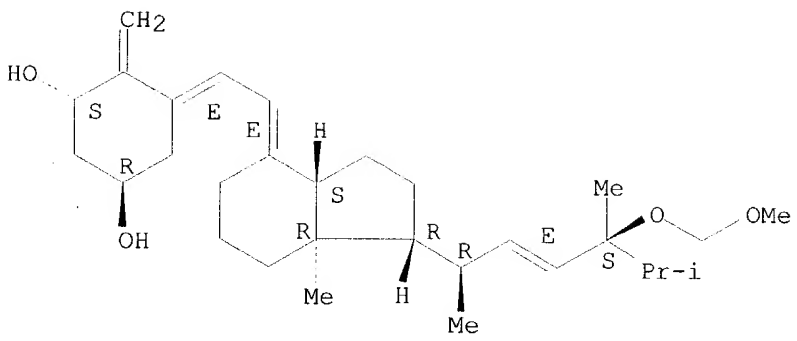
RN 211865-90-6 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19),22-tetraene-1,3,24-triol, 24-[(4,4-diphosphonobutyl)carbamate] (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



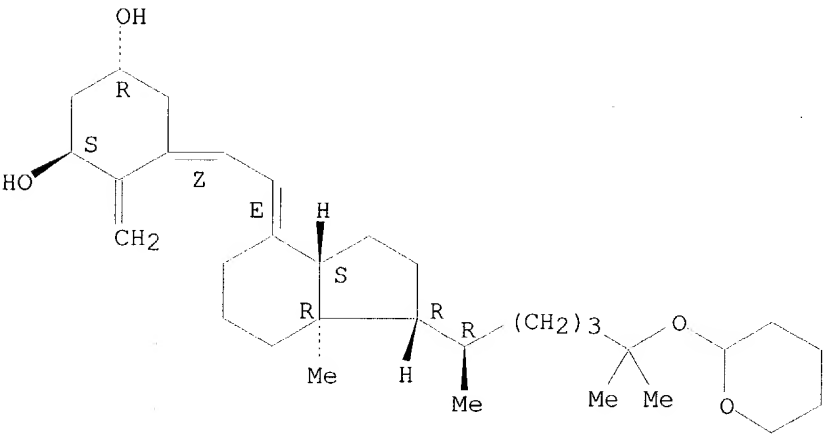
RN 211865-93-9 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19),22-tetraene-1,3-diol, 24-(methoxymethoxy)-, (1α,3β,5E,7E,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



RN 211866-08-9 HCAPLUS
CN 9,10-Secocholesta-5,7,10(19)-triene-1,3-diol, 25-[(tetrahydro-2H-pyran-2-yl)oxy]-, (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

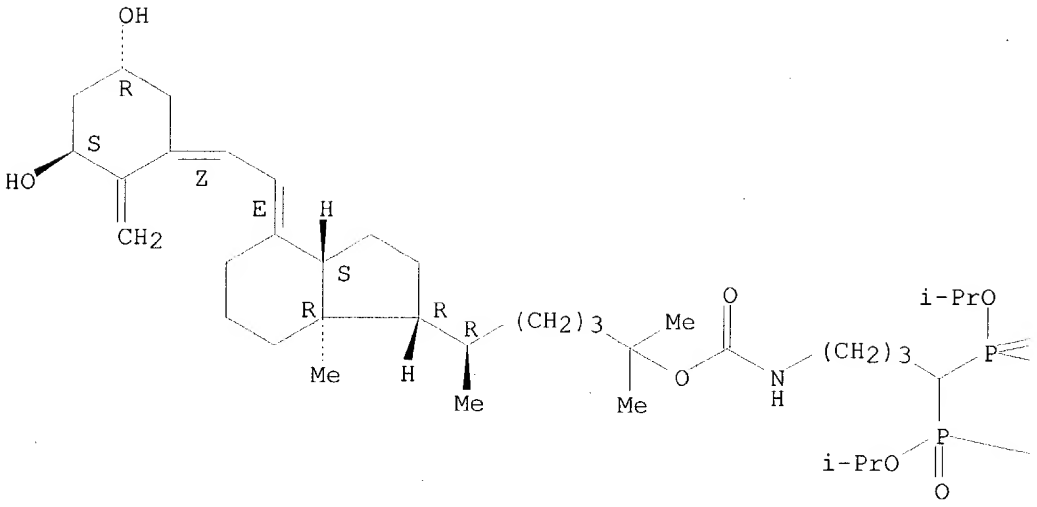
Absolute stereochemistry.
Double bond geometry as shown.



RN 557072-53-4 HCAPLUS
CN 9,10-Secocholesta-5,7,10(19)-triene-1,3,25-triol, 25-[[4,4-bis[bis(1-methylethoxy)phosphinyl]butyl]carbamate], (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



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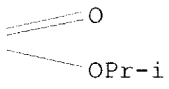
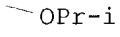
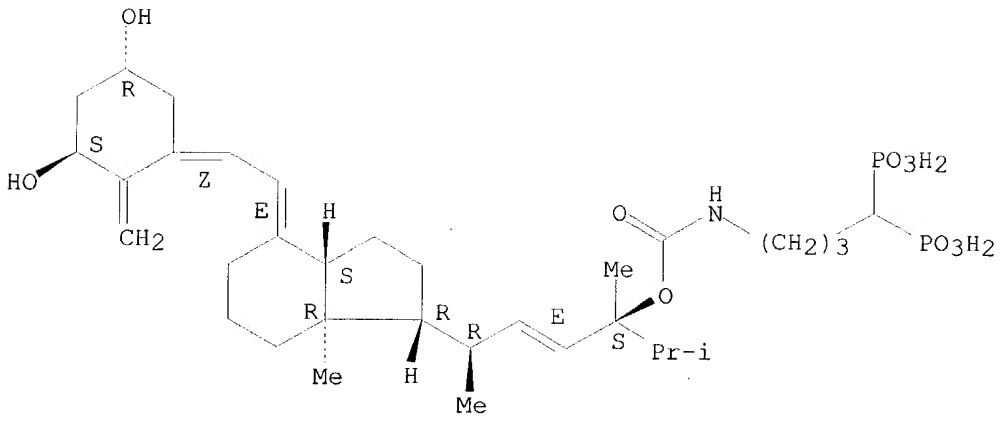




IT **211865-91-7P 557072-54-5P**
RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(targeted therapeutic delivery of vitamin D compds.)
RN 211865-91-7 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19),22-tetraene-1,3,24-triol, 24-[(4,4-diphosphonobutyl)carbamate], (1α,3β,5Z,7E,22E)- (9CI) (CA INDEX NAME)

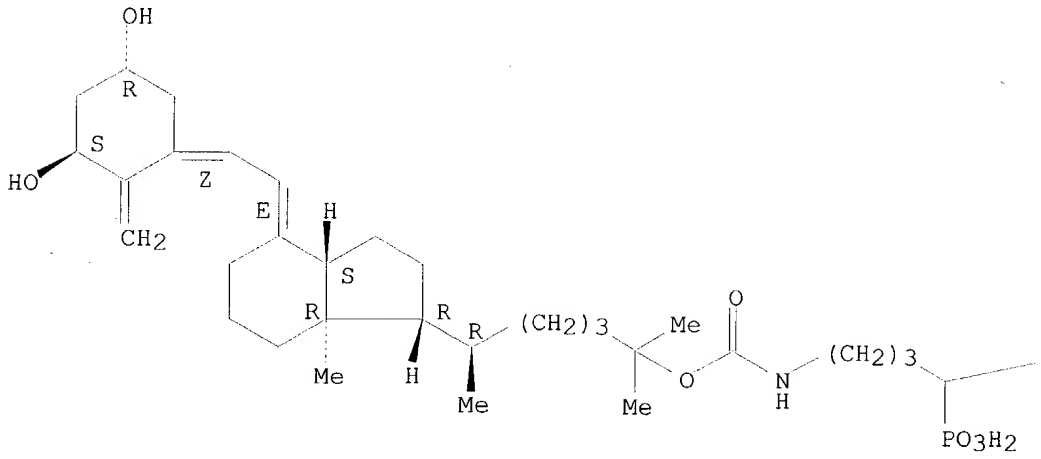
Absolute stereochemistry.
Double bond geometry as shown.



RN 557072-54-5 HCAPLUS
CN 9,10-Secocholesta-5,7,10(19)-triene-1,3,25-triol, 25-[(4,4-diphosphonobutyl)carbamate], (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



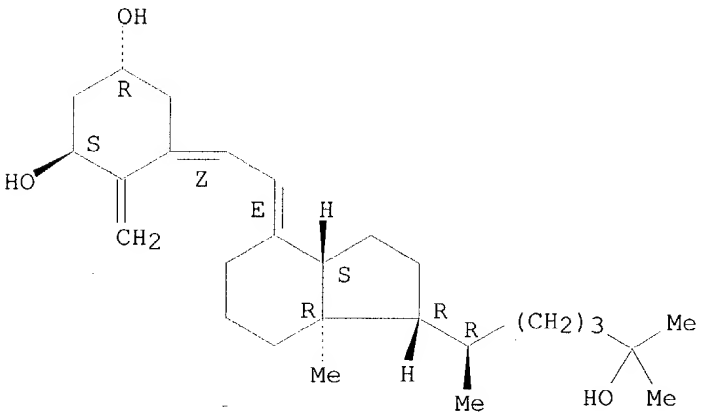
— PO_3H_2

IT **32222-06-3**, 1α,25-Dihydroxyvitamin D3 **41294-56-8**, 1α-Hydroxyvitamin D3 **54573-75-0**, 1α-Hydroxyvitamin D2 **60133-18-8**, 1α,25-Dihydroxyvitamin D2 **66376-36-1**, Alendronate **83805-11-2**, Falecalcitriol **89987-06-4**, Tiludronate **103909-75-7**, Maxacalcitol **112965-21-6**, Calcipotriol **114084-78-5**, Ibandronate **118072-93-8**, Zoledronate **124043-51-2**, 1α,24-Dihydroxyvitamin D2 **131249-38-2**, 1α,25-Dihydroxyvitamin D4 **131918-61-1**, Paricalcitol **134404-52-7**, Seocalcitol **157893-62-4**, 1α,24-Dihydroxyvitamin D4
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(targeted therapeutic delivery of vitamin D compds.)

RN 32222-06-3 HCAPLUS

CN 9,10-Secocholesta-5,7,10(19)-triene-1,3,25-triol, (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

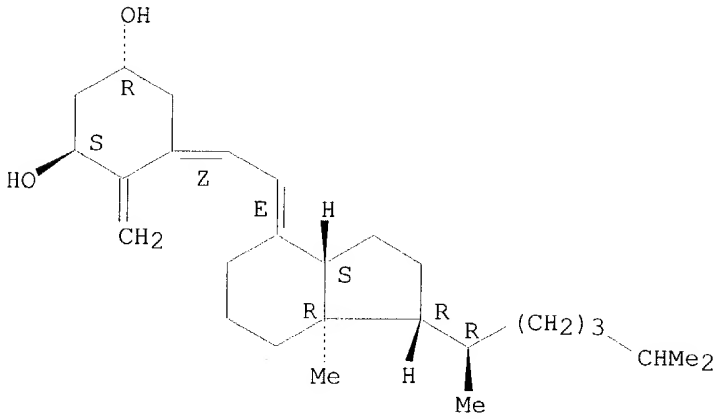
Absolute stereochemistry. Rotation (+).
Double bond geometry as shown.



RN 41294-56-8 HCAPLUS

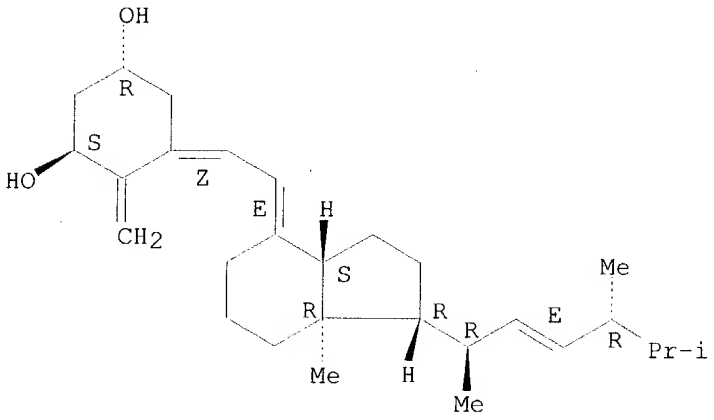
CN 9,10-Secocholesta-5,7,10(19)-triene-1,3-diol, (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).
Double bond geometry as shown.



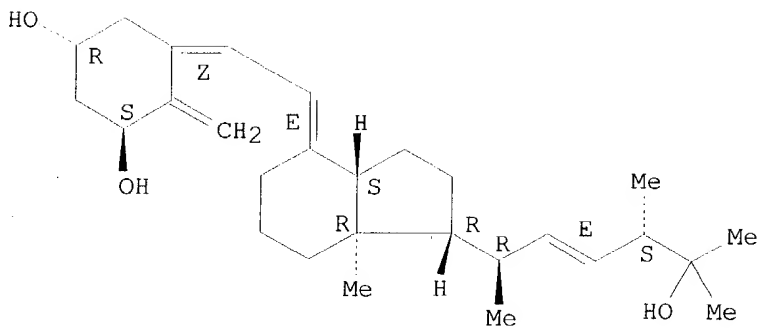
RN 54573-75-0 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19),22-tetraene-1,3-diol, (1α,3β,5Z,7E,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

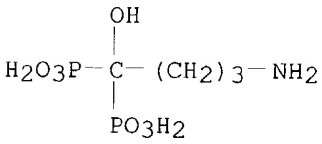


RN 60133-18-8 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19),22-tetraene-1,3,25-triol, (1α,3β,5Z,7E,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

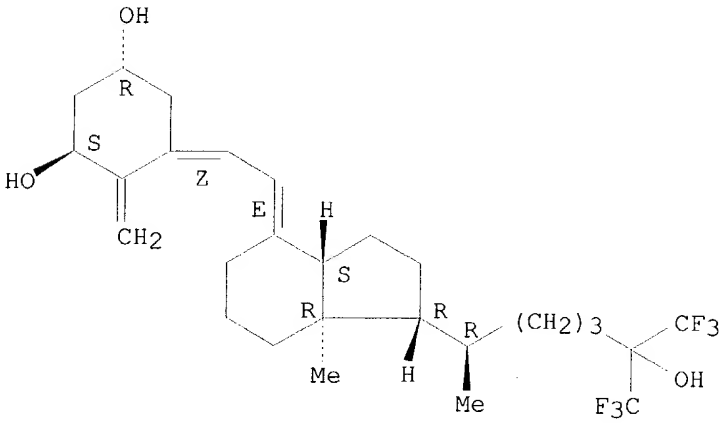


RN 66376-36-1 HCAPLUS
CN Phosphonic acid, (4-amino-1-hydroxybutylidene)bis- (9CI) (CA INDEX NAME)

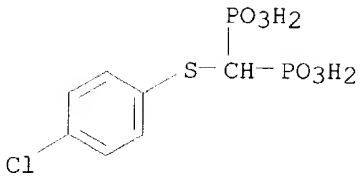


RN 83805-11-2 HCAPLUS
CN 9,10-Secocholesta-5,7,10(19)-triene-1,3,25-triol, 26,26,26,27,27,27-hexafluoro-, (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

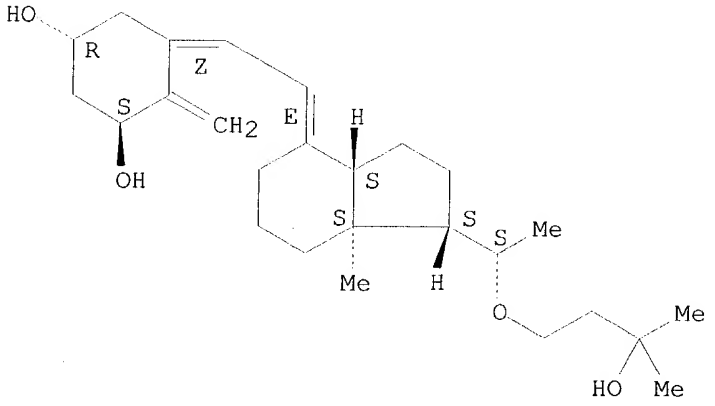


RN 89987-06-4 HCAPLUS
CN Phosphonic acid, [[(4-chlorophenyl)thio]methylene]bis- (9CI) (CA INDEX NAME)



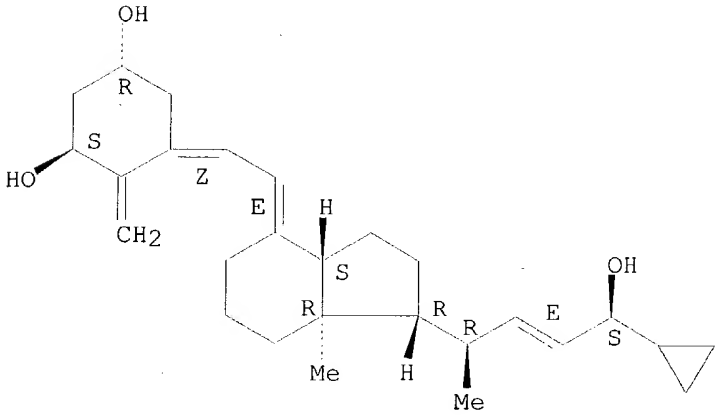
RN 103909-75-7 HCAPLUS
CN 1,3-Cyclohexanediol, 4-methylene-5-[(2E)-[(1S,3aS,7aS)-octahydro-1-[(1S)-1-(3-hydroxy-3-methylbutoxy)ethyl]-7a-methyl-4H-inden-4-ylidene]ethylidene]-, (1R,3S,5Z)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



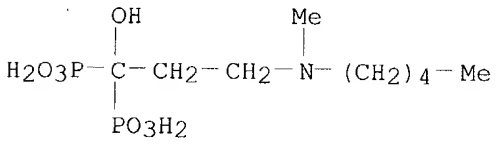
RN 112965-21-6 HCAPLUS
CN 9,10-Secochola-5,7,10(19),22-tetraene-1,3,24-triol, 24-cyclopropyl-, (1α,3β,5Z,7E,22E,24S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

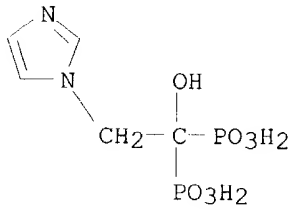


RN 114084-78-5 HCAPLUS

CN Phosphonic acid, [1-hydroxy-3-(methylpentylamino)propylidene]bis- (9CI) (CA INDEX NAME)

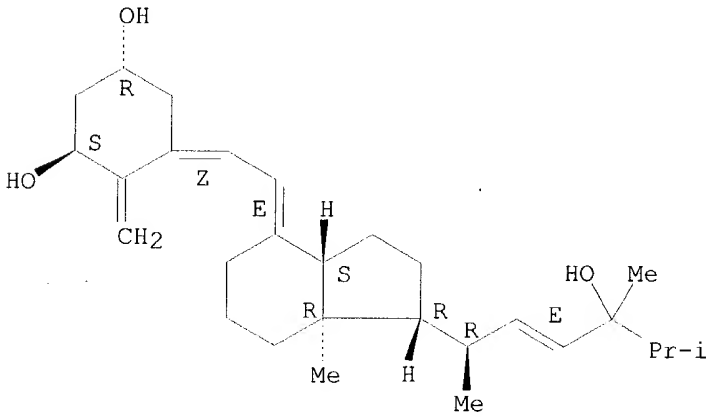


RN 118072-93-8 HCAPLUS
CN Phosphonic acid, [1-hydroxy-2-(1H-imidazol-1-yl)ethylidene]bis- (9CI) (CA INDEX NAME)



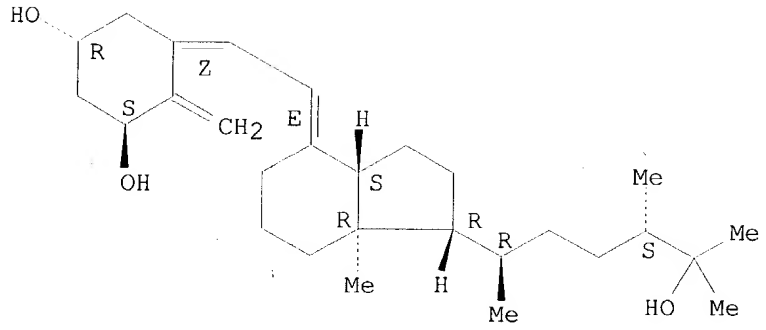
RN 124043-51-2 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19),22-tetraene-1,3,24-triol, (1α,3β,5Z,7E,22E,24ξ)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



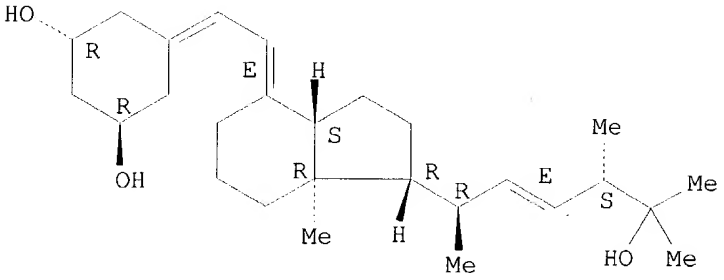
RN 131249-38-2 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19)-triene-1,3,25-triol, (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



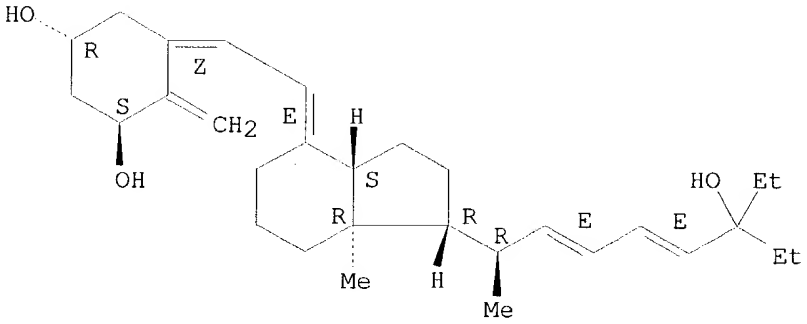
RN 131918-61-1 HCAPLUS
CN 19-Nor-9,10-secoergosta-5,7,22-triene-1,3,25-triol, (1α,3β,7E,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



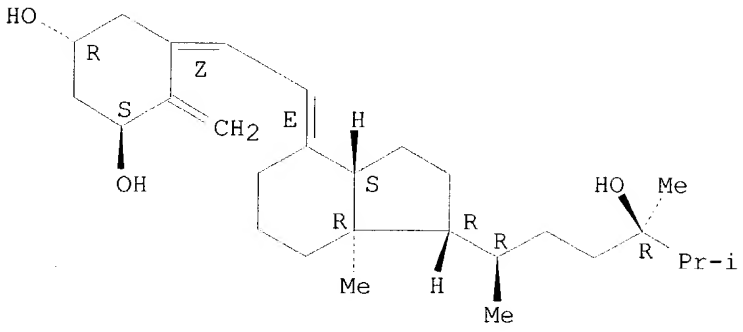
RN 134404-52-7 HCAPLUS
CN 1,3-Cyclohexanediol, 5-[(2E)-[(1R,3aS,7aR)-1-[(1R,2E,4E)-6-ethyl-6-hydroxy-1-methyl-2,4-octadienyl]octahydro-7a-methyl-4H-inden-4-ylidene]ethylidene]-4-methylene-, (1R,3S,5Z)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



RN 157893-62-4 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19)-triene-1,3,24-triol, (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



L68 ANSWER 3 OF 23 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2002:928238 HCAPLUS
DN 138:332
ED Entered STN: 06 Dec 2002
TI Method for treating and preventing hyperparathyroidism with active vitamin D compounds
IN **Mazess, Richard B.**; Strugnell, Stephen A.; Knutson, Joyce C.
PA **Bone Care International, Inc., USA**
SO U.S. Pat. Appl. Publ., 17 pp., Cont.-in-part of U.S. 6,376,479.
CODEN: USXXCO
DT Patent
LA English
IC ICM A61K031-59
NCL 514167000
CC 1-10 (Pharmacology)
Section cross-reference(s): 2, 63
FAN.CNT 20

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2002183288	A1	20021205	US 2002-127005	20020419 <--
	US 5602116	A	19970211	US 1995-415488	19950403 <--
	US 5707980	A	19980113	US 1997-798958	19970211 <--
	US 5869473	A	19990209	US 1997-907659	19970808 <--
	US 6242434	B1	20010605	US 1998-86969	19980529
	US 6376479	B1	20020423	US 2000-501093	20000209 <--
	US 2004043971	A1	20040304	US 2003-385327	20030310 <--
	WO 2003088976	A1	20031030	WO 2003-US12013	20030417
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	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
PRAI	US 1995-415488	A1	19950403 <--		
	US 1997-798958	A3	19970211 <--		

US 1997-907659	A2	19970808	
US 1997-907660	B2	19970808	
US 1998-86969	A2	19980529	
US 2000-501093	A2	20000209	
US 1988-227371	B1	19880802	<--
US 1990-569412	A1	19900817	<--
US 1991-812056	B1	19911217	<--
US 1992-812056	B1	19920305	<--
US 1993-119895	A2	19930910	<--
US 2002-127005	A2	20020419	

OS MARPAT 138:332

AB This invention relates to a method for treating or preventing hyperthyroidism associated with aging and/or with Aging-Related Vitamin D Deficiency (ARVDD) syndrome by administering a sufficient amount of an active vitamin D compound utilizing a variety of effective treatment protocols. The invention further relates to treating or preventing one or more of the following conditions, e.g., (1) primary vitamin D deficiency, (2) 1,25-(OH)2D3 deficiency, and (3) 1,25-(OH)2D3 resistance included within the syndrome of ARVDD. Fourteen renal patients enrolled in a clin. trial to study secondary hyperparathyroidism showed baseline intact parathyroid hormone (iPTH) levels greater than 1000 pg/mL (range: 1015-4706 pg/mL). The initial dose of 1α-(OH)D2 (10 μg-3 times/wk) was increased (maximum, 20 μg-3 times/wk) or decreased as necessary to attain and maintain iPTH in the range of 150-300 pg/mL. After 11-12 wk of treatment, the iPTH levels of all but two of the patients had decreased to below 1000 pg/mL, and the iPTH levels in nine of the patients had decreased to below 510 pg/mL.

ST vitamin D compd treatment hyperparathyroidism aging; aging related vitamin D deficiency syndrome hyperparathyroidism prevention; parathyroid hormone lowering hydroxyvitamin D2 hyperparathyroidism

IT Aging, animal
Drug delivery systems
Human
Hyperparathyroidism
Hyperthyroidism
Mammalia
Osteoporosis
(active vitamin D compds. for treating and preventing hyperparathyroidism associated with aging)

IT Disease, animal
(aging-related vitamin D deficiency syndrome, hyperthyroidism associated with; active vitamin D compds. for treating and preventing hyperparathyroidism associated with aging)

IT Mineral elements, biological studies
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(bone, coadministration of agent reducing loss of; active vitamin D compds. for treating and preventing hyperparathyroidism associated with aging)

IT Bone
(coadministration of agent reducing loss of; active vitamin D compds. for treating and preventing hyperparathyroidism associated with aging)

IT **Estrogens**
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(**conjugated**, coadministration of; active vitamin D compds. for treating and preventing hyperparathyroidism associated with aging)

IT Kidney, disease
(end stage, secondary hyperparathyroidism treatment in relation to; active vitamin D compds. for treating and preventing

hyperparathyroidism associated with aging)

IT Drug delivery systems
(injections, i.v.; active vitamin D compds. for treating and preventing hyperparathyroidism associated with aging)

IT Bone
(minerals, coadministration of agent reducing loss of; active vitamin D compds. for treating and preventing hyperparathyroidism associated with aging)

IT Drug delivery systems
(mucosal; active vitamin D compds. for treating and preventing hyperparathyroidism associated with aging)

IT Drug delivery systems
(nasal; active vitamin D compds. for treating and preventing hyperparathyroidism associated with aging)

IT Drug delivery systems
(oral; active vitamin D compds. for treating and preventing hyperparathyroidism associated with aging)

IT Drug delivery systems
(parenterals; active vitamin D compds. for treating and preventing hyperparathyroidism associated with aging)

IT Toxins
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(pertussin; coadministration of; active vitamin D compds. for treating and preventing hyperparathyroidism associated with aging)

IT Menopause
(postmenopause; active vitamin D compds. for treating and preventing hyperparathyroidism associated with aging)

IT Hyperparathyroidism
(secondary, treatment of, in end stage renal disease; active vitamin D compds. for treating and preventing hyperparathyroidism associated with aging)

IT Hyperparathyroidism
(tertiary; active vitamin D compds. for treating and preventing hyperparathyroidism associated with aging)

IT Drug delivery systems
(transdermal; active vitamin D compds. for treating and preventing hyperparathyroidism associated with aging)

IT 13598-36-2D, Phosphonic acid, alkylidenebis- derivs., compds.
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(Bisphosphonate, coadministration of; active vitamin D compds. for treating and preventing hyperparathyroidism associated with aging)

IT 9002-64-6, Parathyroid hormone
RL: ADV (Adverse effect, including toxicity); BSU (Biological study, unclassified); BIOL (Biological study)
(active vitamin D compound for lowering blood serum levels of; active vitamin D compds. for treating and preventing hyperparathyroidism associated with aging)

IT **41294-56-8**, 1α-(OH)D3 **57333-96-7**, 1α,24(R)-Dihydroxyvitamin D3
RL: ADV (Adverse effect, including toxicity); BIOL (Biological study)
(active vitamin D compds. for treating and preventing hyperparathyroidism associated with aging)

IT 1406-16-2, Vitamin D 7440-70-2, Calcium, biological studies
RL: BSU (Biological study, unclassified); PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(active vitamin D compds. for treating and preventing hyperparathyroidism associated with aging)

IT 1406-16-2D, Vitamin D, hydroxy compds. **54573-75-0**, 1α-Hydroxyvitamin D2 **58050-56-9**, 24-Hydroxyvitamin D2 **60133-18-8**, 1α,25-Dihydroxyvitamin D2 **124043-51-2**, 1α,24-Dihydroxyvitamin D2 **131249-38-2**, 1α,25-Dihydroxyvitamin D4 133876-00-3D, 1α-Hydroxyvitamin D, compds. **143032-85-3**, 1α-Hydroxyvitamin D4 **156316-85-7**, 1α,24(S)-Dihydroxyvitamin D2 **157893-62-4**, 1α,24-Dihydroxyvitamin D4 **186489-58-7** **254448-88-9**, 24-Hydroxyvitamin D4 **457048-34-9**
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(active vitamin D compds. for treating and preventing hyperparathyroidism associated with aging)

IT **14265-44-2**, Phosphate, biological studies
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(binder; active vitamin D compds. for treating and preventing hyperparathyroidism associated with aging)

IT 1406-16-2D, Vitamin D, compds. **7440-42-8**, Boron, biological studies 7681-49-4D, Sodium fluoride, compds. **9007-12-9**, Calcitonin **13408-78-1**, Cobalamin
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(coadministration of; active vitamin D compds. for treating and preventing hyperparathyroidism associated with aging)

IT **32222-06-3**, 1,25-Dihydroxy vitamin D3
RL: ADV (Adverse effect, including toxicity); BSU (Biological study, unclassified); PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(deficiency or resistance, aging-related vitamin D deficiency syndrome including; active vitamin D compds. for treating and preventing hyperparathyroidism associated with aging)

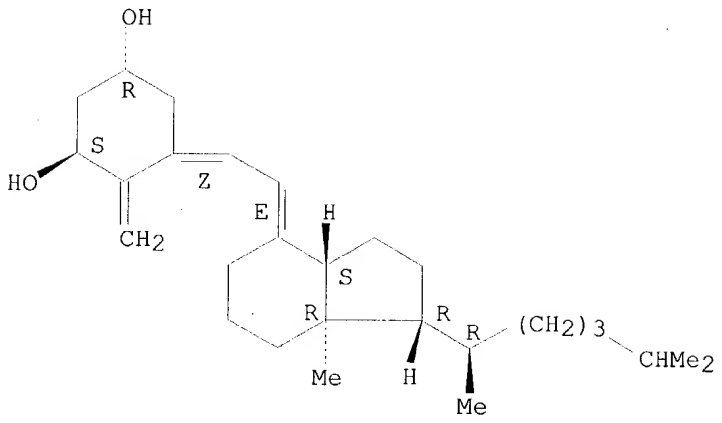
IT 62-54-4, Calcium acetate 471-34-1, Calcium carbonate, biological studies
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(phosphate binder; active vitamin D compds. for treating and preventing hyperparathyroidism associated with aging)

IT **41294-56-8**, 1α-(OH)D3 **57333-96-7**, 1α,24(R)-Dihydroxyvitamin D3
RL: ADV (Adverse effect, including toxicity); BIOL (Biological study)
(active vitamin D compds. for treating and preventing hyperparathyroidism associated with aging)

RN 41294-56-8 HCAPLUS

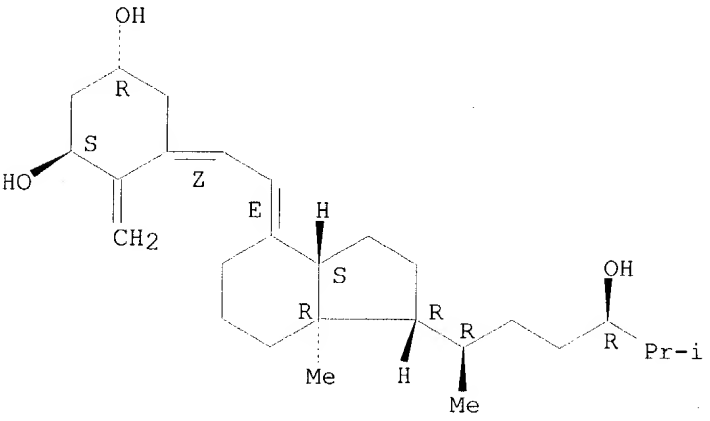
CN 9,10-Secocholesta-5,7,10(19)-triene-1,3-diol, (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).
Double bond geometry as shown.



RN 57333-96-7 HCAPLUS
CN 9,10-Secocholesta-5,7,10(19)-triene-1,3,24-triol, (1α,3β,5Z,7E,24R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

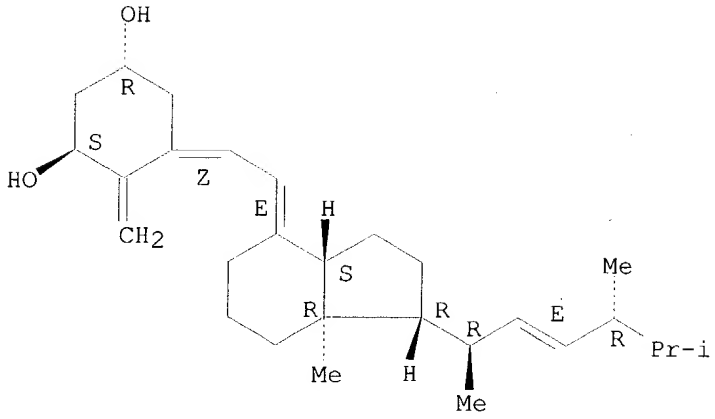


IT **54573-75-0**, 1α-Hydroxyvitamin D2 **58050-56-9**, 24-Hydroxyvitamin D2 **60133-18-8**, 1α,25-Dihydroxyvitamin D2 **124043-51-2**, 1α,24-Dihydroxyvitamin D2 **131249-38-2**, 1α,25-Dihydroxyvitamin D4 **143032-85-3**, 1α-Hydroxyvitamin D4 **156316-85-7**, 1α,24(S)-Dihydroxyvitamin D2 **157893-62-4**, 1α,24-Dihydroxyvitamin D4 **186489-58-7 254448-88-9**, 24-Hydroxyvitamin D4 **457048-34-9**
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(active vitamin D compds. for treating and preventing hyperparathyroidism associated with aging)

RN 54573-75-0 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19),22-tetraene-1,3-diol, (1α,3β,5Z,7E,22E)- (9CI) (CA INDEX NAME)

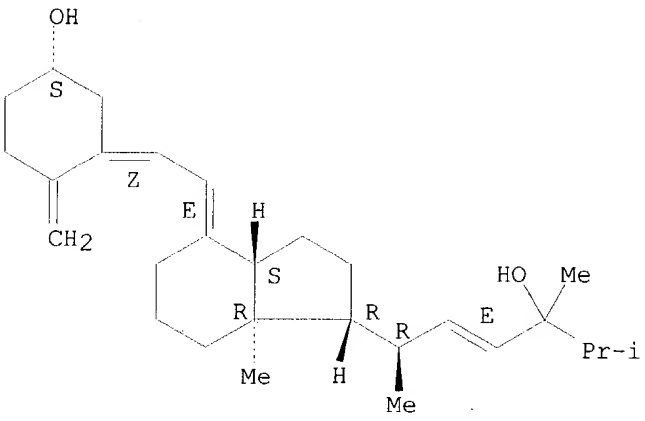
Absolute stereochemistry.

Double bond geometry as shown.



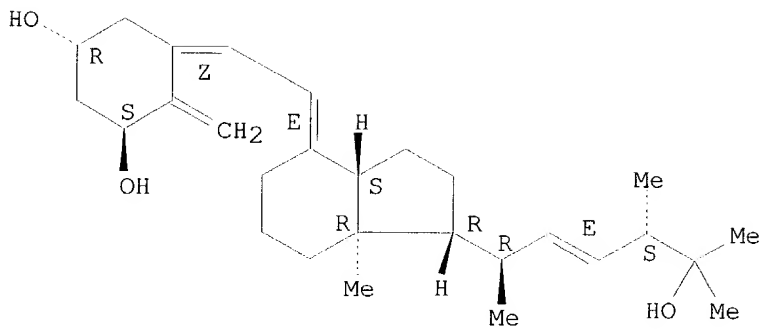
RN 58050-56-9 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19),22-tetraene-3,24-diol, (3β,5Z,7E,22E,24ξ)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



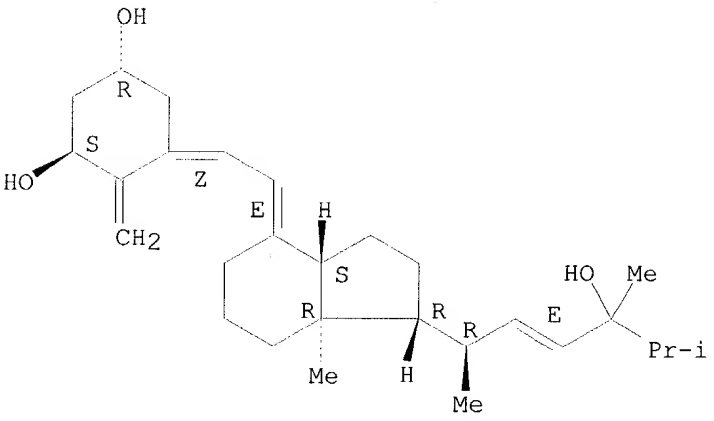
RN 60133-18-8 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19),22-tetraene-1,3,25-triol, (1α,3β,5Z,7E,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



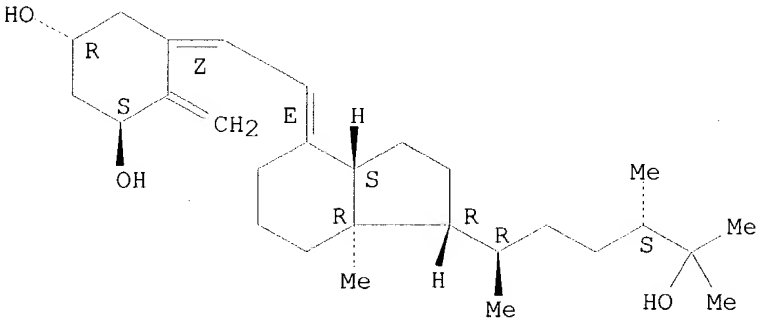
RN 124043-51-2 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19),22-tetraene-1,3,24-triol, (1α,3β,5Z,7E,22E,24ξ)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



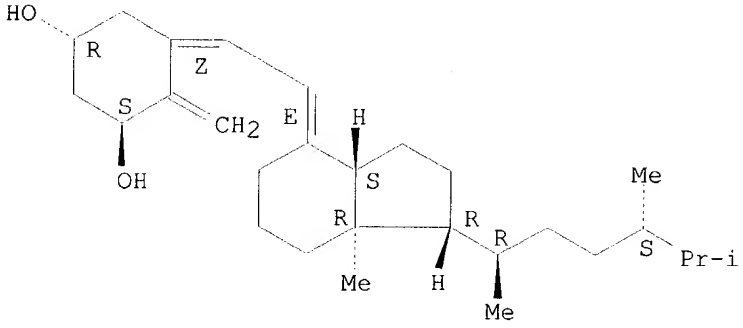
RN 131249-38-2 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19)-triene-1,3,25-triol, (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



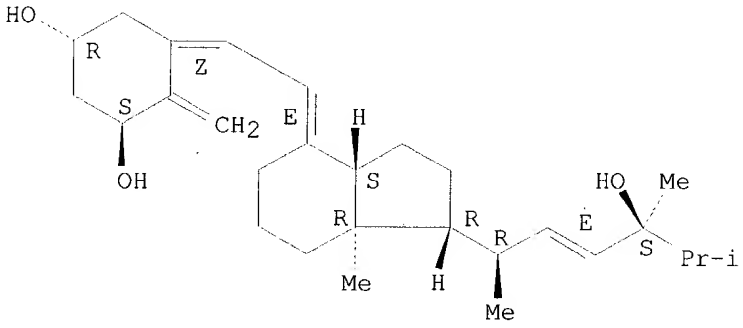
RN 143032-85-3 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19)-triene-1,3-diol, (1α,3β,5Z,7E)-
(9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



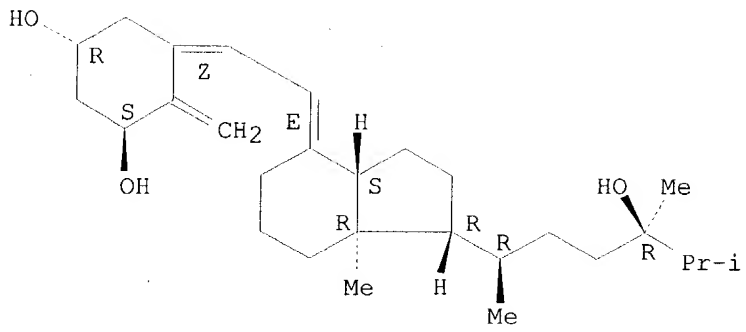
RN 156316-85-7 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19),22-tetraene-1,3,24-triol,
(1α,3β,5Z,7E,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



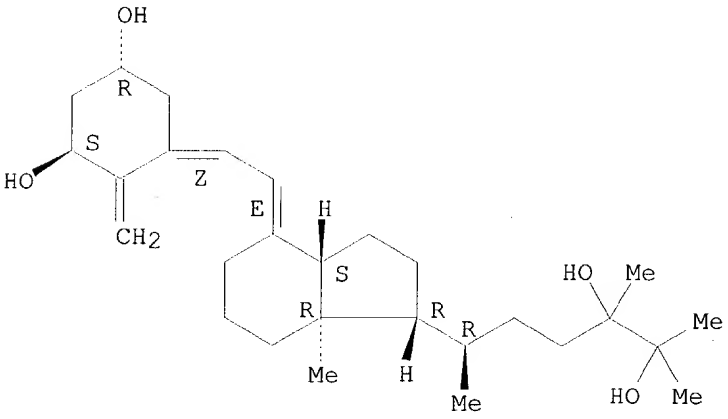
RN 157893-62-4 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19)-triene-1,3,24-triol, (1α,3β,5Z,7E)-
(9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



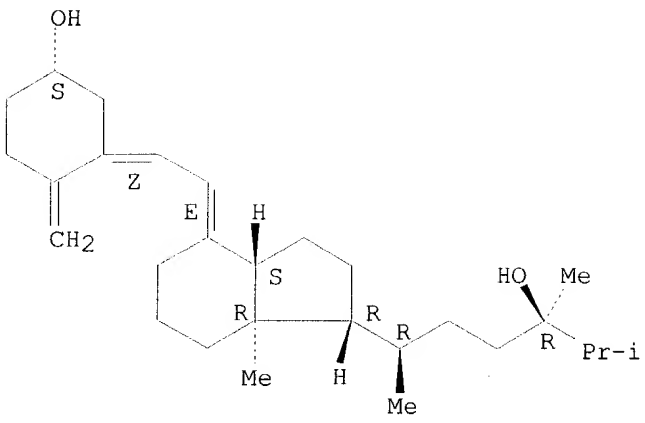
RN 186489-58-7 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19)-triene-1,3,24,25-tetrol, (1α,3β,5Z,7E,24ξ)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



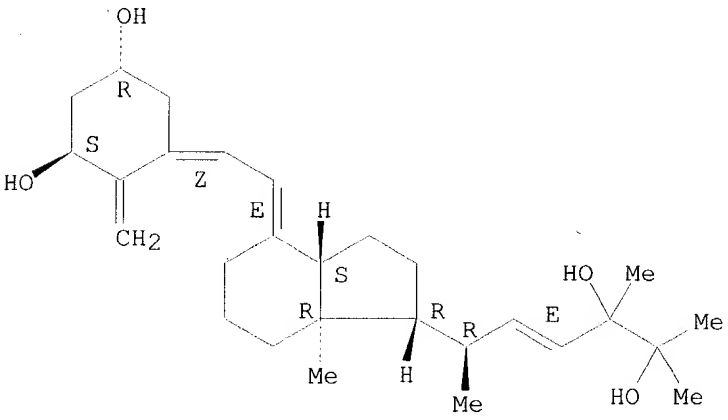
RN 254448-88-9 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19)-diene-3,24-diol, (3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

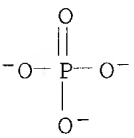


RN 457048-34-9 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19),22-tetraene-1,3,24,25-tetrol, (1α,3β,5Z,7E,22E,25ξ)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



IT **14265-44-2**, Phosphate, biological studies
RL: BSU (Biological study, unclassified); BIOL (Biological study) (binder; active vitamin D compds. for treating and preventing hyperparathyroidism associated with aging)
RN 14265-44-2 HCAPLUS
CN Phosphate (8CI, 9CI) (CA INDEX NAME)



IT **7440-42-8**, Boron, biological studies **9007-12-9**, Calcitonin **13408-78-1**, Cobalamin

RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(coadministration of; active vitamin D compds. for treating and preventing hyperparathyroidism associated with aging)

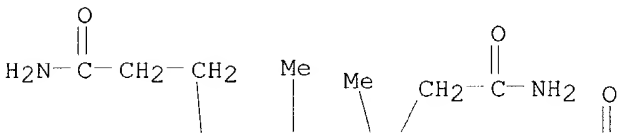
RN 7440-42-8 HCAPLUS
CN Boron (8CI, 9CI) (CA INDEX NAME)

B

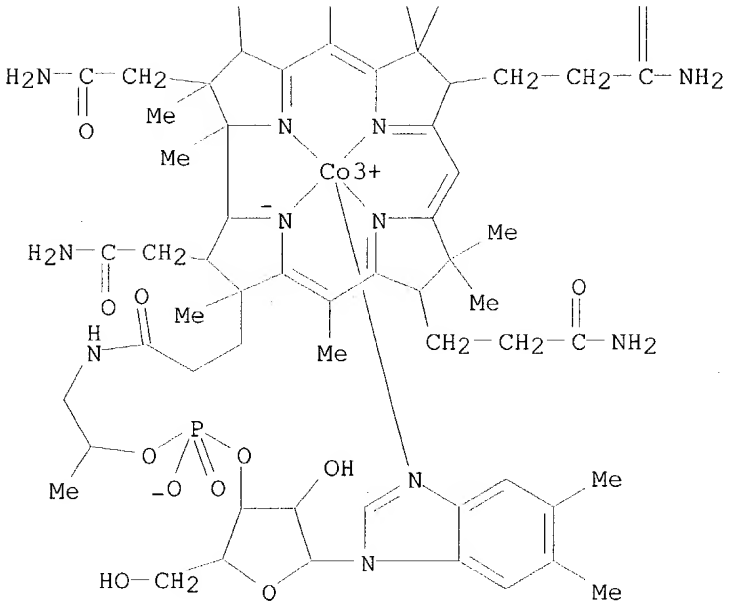
RN 9007-12-9 HCAPLUS
CN Calcitonin (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 13408-78-1 HCAPLUS
CN Cobinamide, dihydrogen phosphate (ester), inner salt, 3'-ester with (5,6-dimethyl-1-α-D-ribofuranosyl-1H-benzimidazole-κN3), ion(1+) (9CI) (CA INDEX NAME)

PAGE 1-A

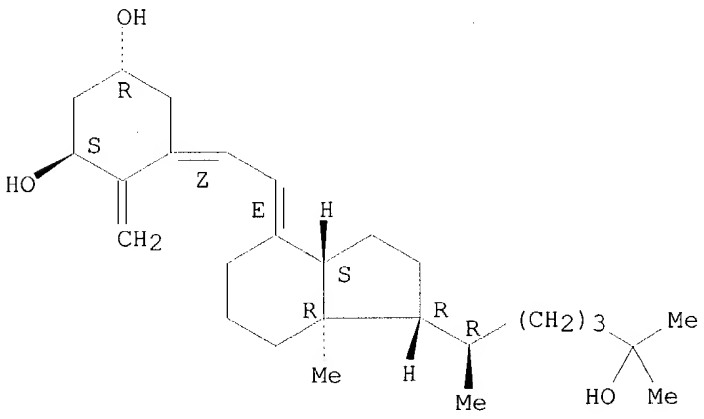


PAGE 2-A



IT **32222-06-3**, 1,25-Dihydroxy vitamin D3
RL: ADV (Adverse effect, including toxicity); BSU (Biological study, unclassified); PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(deficiency or resistance, aging-related vitamin D deficiency syndrome including; active vitamin D compds. for treating and preventing hyperparathyroidism associated with aging)
RN 32222-06-3 HCAPLUS
CN 9,10-Secocholesta-5,7,10(19)-triene-1,3,25-triol, (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).
Double bond geometry as shown.



L68 ANSWER 4 OF 23 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2002:312011 HCAPLUS
DN 136:289077
ED Entered STN: 25 Apr 2002
TI Method for treating and preventing hyperparathyroidism with 1α,24(S)-(OH)2 vitamin D2
IN Knutson, Joyce C.; **Bishop, Charles W.**
PA **Bone Care International, Inc., USA**
SO U.S., 9 pp., Cont.-in-part of U.S. 6.242,434.
CODEN: USXXAM
DT Patent
LA English
IC ICM A61K031-595
NCL 514167000
CC 1-10 (Pharmacology)
FAN.CNT 20

	PATENT NO.	KIND	DATE		APPLICATION NO.	DATE	
PI	US 6376479	B1	20020423		US 2000-501093	20000209	<--
	US 5602116	A	19970211		US 1995-415488	19950403	<--
	US 5707980	A	19980113		US 1997-798958	19970211	<--
	US 5869473	A	19990209		US 1997-907659	19970808	<--
	US 6242434	B1	20010605		US 1998-86969	19980529	
	US 2002183288	A1	20021205		US 2002-127005	20020419	<--
	US 2004043971	A1	20040304		US 2003-385327	20030310	<--
PRAI	US 1995-415488	A1	19950403	<--			
	US 1997-798958	A3	19970211	<--			
	US 1997-907659	A2	19970808				
	US 1997-907660	B2	19970808				
	US 1998-86969	A2	19980529				
	US 1988-227371	B1	19880802	<--			
	US 1990-569412	A1	19900817	<--			
	US 1991-812056	B1	19911217	<--			
	US 1992-812056	B1	19920305	<--			
	US 1993-119895	A2	19930910	<--			
	US 2000-501093	A2	20000209				
	US 2002-127005	A2	20020419				

OS MARPAT 136:289077
AB A method for reducing or preventing elevated blood parathyroid hormone level in a human suffering from primary hyperparathyroidism, secondary hyperparathyroidism, or hyperparathyroidism secondary to end stage renal disease by administering a sufficient amount of 1α,24(S)-(OH)2 vitamin D2. The 1α,24(S)-(OH)2 vitamin D2 can be coadministered with a calcium phosphate binder or with an agent that reduces loss of bone mass, or bone mineral content in patients. The safety and efficacy of 1α-hydroxyvitamin D2 for treating osteoporosis in postmenopausal women was also disclosed.
ST treatment hyperparathyroidism dihydroxyvitamin D2
IT **Estrogens**
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(**conjugated**; method for treating and preventing hyperparathyroidism with 1α,24(S)-(OH)2 vitamin D2 in combination with a calcium phosphate binder or an agent that decreases bone loss)
IT Bone, disease
(demineralization; method for treating and preventing hyperparathyroidism with 1α,24(S)-(OH)2 vitamin D2 in combination with a calcium phosphate binder or an agent that decreases bone loss)
IT Aging, animal
(elderly; method for treating and preventing hyperparathyroidism with

1α,24(S)-(OH)2 vitamin D2 in combination with a calcium phosphate binder or an agent that decreases bone loss)

IT Kidney, disease
(failure, chronic, hyperparathyroidism secondary to end stage renal disease; method for treating and preventing hyperparathyroidism with 1α,24(S)-(OH)2 vitamin D2)

IT Hyperparathyroidism
(method for treating and preventing hyperparathyroidism with 1α,24(S)-(OH)2 vitamin D2)

IT Human
(method for treating and preventing hyperparathyroidism with 1α,24(S)-(OH)2 vitamin D2 in combination with a calcium phosphate binder or an agent that decreases bone loss)

IT Osteoporosis
(method for treating osteoporosis in postmenopausal women using 1α-hydroxy vitamin D2)

IT **Toxins**
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(**pertussis**; method for treating and preventing hyperparathyroidism with 1α,24(S)-(OH)2 vitamin D2 in combination with a calcium phosphate binder or an agent that decreases bone loss)

IT Menopause
(postmenopause; method for treating osteoporosis in postmenopausal women using 1α-hydroxy vitamin D2)

IT Hyperparathyroidism
(primary; method for treating and preventing hyperparathyroidism with 1α,24(S)-(OH)2 vitamin D2)

IT Bone
(resorption, inhibitors; method for treating and preventing hyperparathyroidism with 1α,24(S)-(OH)2 vitamin D2 in combination with a calcium phosphate binder or an agent that decreases bone loss)

IT Hyperparathyroidism
(secondary; method for treating and preventing hyperparathyroidism with 1α,24(S)-(OH)2 vitamin D2)

IT 13598-36-2, Phosphonic acid
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(alkylidenebis-derivs.; method for treating and preventing hyperparathyroidism with 1α,24(S)-(OH)2 vitamin D2 in combination with a calcium phosphate binder or an agent that decreases bone loss)

IT **156316-85-7**, 1α,24(S)-Dihydroxyvitamin D2
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(method for treating and preventing hyperparathyroidism with 1α,24(S)-(OH)2 vitamin D2)

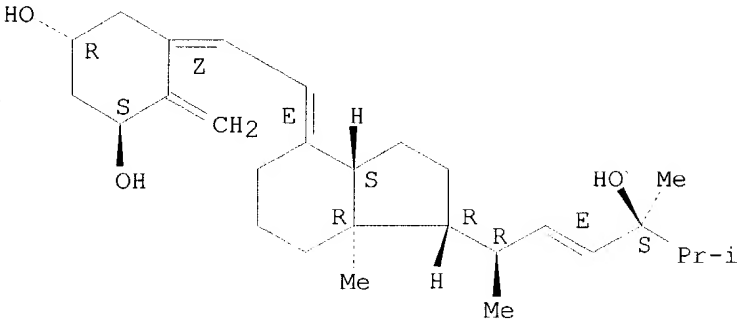
IT 10103-46-5, Calcium phosphate
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(method for treating and preventing hyperparathyroidism with 1α,24(S)-(OH)2 vitamin D2 in combination with a calcium phosphate binder or an agent that decreases bone loss)

IT 1406-16-2, Vitamin D **7440-42-8**, Boron, biological studies 7440-70-2, Calcium, biological studies 7681-49-4, Sodium fluoride, biological studies **13408-78-1**, Cobalamin
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(method for treating and preventing hyperparathyroidism with 1α,24(S)-(OH)2 vitamin D2 in combination with a calcium phosphate binder or an agent that decreases bone loss)

IT **54573-75-0**, 1α-Hydroxy vitamin D2
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(method for treating osteoporosis in postmenopausal women using 1α-hydroxy vitamin D2)
RE.CNT 46 THERE ARE 46 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Aloia, J; Amer J Med 1988, V84, P401 MEDLINE
(2) Anon; WO A9001321 1990
(3) Anon; EP 0503630 A1 1992 HCAPLUS
(4) Anon; WO 9205130 1992 HCAPLUS
(5) Anon; WO 9212165 1992 HCAPLUS
(6) Anon; EP 0562497 A1 1993 HCAPLUS
(7) Anon; WO A9314763 1993
(8) Anon; WO 9405630 1994 HCAPLUS
(9) Anon; WO 9416711 1994 HCAPLUS
(10) Anon; Biochem J 1995, V310(1), P233
(11) Anon; Endocrinology 1995, V136(11), P4749
(12) Anon; J Bone Min Res 1994, V9, P607
(13) Anon; The Merck Index, 11th ed 1989, P9932
(14) Christiansen, C; Eur J Clin Invest 1981, V11, P305 HCAPLUS
(15) Deluca; US 3907843 A 1975 HCAPLUS
(16) Deluca; US 4195027 A 1980 HCAPLUS
(17) Deluca; US 4202829 A 1980 HCAPLUS
(18) Deluca; US 4225596 A 1980 HCAPLUS
(19) Deluca; US 4234495 A 1980 HCAPLUS
(20) Deluca; US 4260549 A 1981 HCAPLUS
(21) Deluca; US 4554106 A 1985 HCAPLUS
(22) Deluca; US 4555364 A 1985 HCAPLUS
(23) Deluca; US 4588716 A 1986 HCAPLUS
(24) Deluca; US 5104864 A 1992 HCAPLUS
(25) Deluca; US 5403831 A 1995 HCAPLUS
(26) Gallagher, J; Annals of Int Med 1990, V113, P649 MEDLINE
(27) Gallagher, J; J Bone Miner Res 1994, V9(5), P607 MEDLINE
(28) Holick, M; Proc Natl Acad Sci USA 1971, V68, P803 MEDLINE
(29) Holick, M; Science 1973, V180, P190 HCAPLUS
(30) Jensen, G; Clin Endocrinol 1982, V16, P515 MEDLINE
(31) Jones, G; Biochemistry 1975, V14, P1250 HCAPLUS
(32) Knutson; US 5488120 A 1996 HCAPLUS
(33) Knutson; US 5756783 A 1998 HCAPLUS
(34) Knutson, J; Biochemical Pharmacology 1997, V53, P829 HCAPLUS
(35) Lam, H; Science 1974, V486, P1038
(36) Martin, K; J Am Soc Nephrol 1998, V9, P1427 HCAPLUS
(37) Neer; US 4698328 A 1987 HCAPLUS
(38) Neer; US 4833125 A 1989 HCAPLUS
(39) Nishii; US 5063221 A 1991 HCAPLUS
(40) Orimo, H; Bone and Mineral 1987, V3, P47 MEDLINE
(41) Ott, S; Annals of Int Med 1989, V110, P267 MEDLINE
(42) Shiraki, M; Endocrinol Japan 1985, V32, P305 MEDLINE
(43) Sjoden, G; J Nutr 1984, V114, P2043 MEDLINE
(44) Sjoden, G; Proc Soc Exp Biol Med 1985, V178, P432 MEDLINE
(45) Slatopolsky; US 4948789 A 1990 HCAPLUS
(46) Sorensen, O; Clin Endocrinol 1977, V7, P169S
IT **156316-85-7**, 1α,24(S)-Dihydroxyvitamin D2
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(method for treating and preventing hyperparathyroidism with 1α,24(S)-(OH)2 vitamin D2)
RN 156316-85-7 HCAPLUS

CN 9,10-Secoergosta-5,7,10(19),22-tetraene-1,3,24-triol, (1α,3β,5Z,7E,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

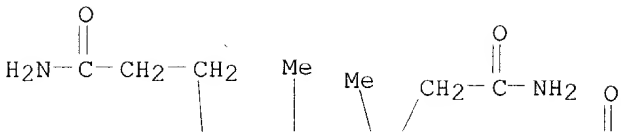


IT **7440-42-8**, Boron, biological studies **13408-78-1**, Cobalamin
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(method for treating and preventing hyperparathyroidism with 1α,24(S)-(OH)2 vitamin D2 in combination with a calcium phosphate binder or an agent that decreases bone loss)
RN 7440-42-8 HCAPLUS
CN Boron (8CI, 9CI) (CA INDEX NAME)

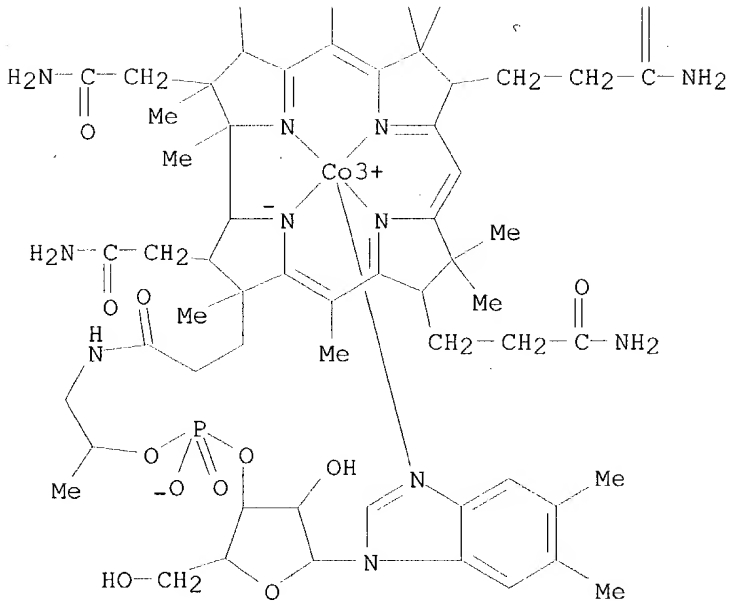
B

RN 13408-78-1 HCAPLUS
CN Cobinamide, dihydrogen phosphate (ester), inner salt, 3'-ester with (5,6-dimethyl-1-α-D-ribofuranosyl-1H-benzimidazole-κN3), ion(1+) (9CI) (CA INDEX NAME)

PAGE 1-A



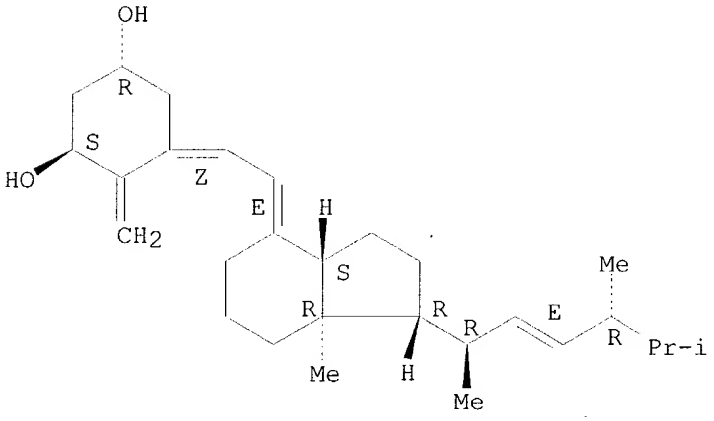
PAGE 2-A



IT **54573-75-0**, 1α-Hydroxy vitamin D2
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(method for treating osteoporosis in postmenopausal women using 1α-hydroxy vitamin D2)
RN 54573-75-0 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19),22-tetraene-1,3-diol, (1α,3β,5Z,7E,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



L68 ANSWER 5 OF 23 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2001:408049 HCAPLUS
DN 135:19817
ED Entered STN: 06 Jun 2001
TI Synthesis and biological activity of 24-hydroxyvitamin D and analogs
IN Bishop, Charles W.; Knutson, Joyce C.; Strugnell, Stephen
PA Bone Care International, Inc., USA
SO U.S., 19 pp., Cont.-in-part of U.S. 5,869,473.
CODEN: USXXAM
DT Patent
LA English
IC ICM A61K031-59
NCL 514167000
CC 32-7 (Steroids)
Section cross-reference(s): 1, 2
FAN.CNT 20

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6242434	B1	20010605	US 1998-86969	19980529
	US 5869473	A	19990209	US 1997-907659	19970808 <--
	CA 2332146	AA	19991202	CA 1999-2332146	19990528
	WO 9961398	A2	19991202	WO 1999-US12084	19990528
	WO 9961398	A3	20001123		
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	RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	EP 1080055	A2	20010307	EP 1999-953332	19990528

	EP 1080055	B1	20030924			
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	JP 2002516299	T2	20020604	JP 2000-550810	19990528	
	AU 757740	B2	20030306	AU 1999-43243	19990528	
	AT 250566	E	20031015	AT 1999-953332	19990528	
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	US 6376479	B1	20020423	US 2000-501093	20000209	<--
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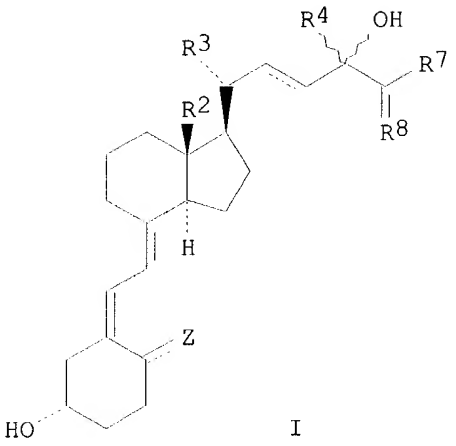
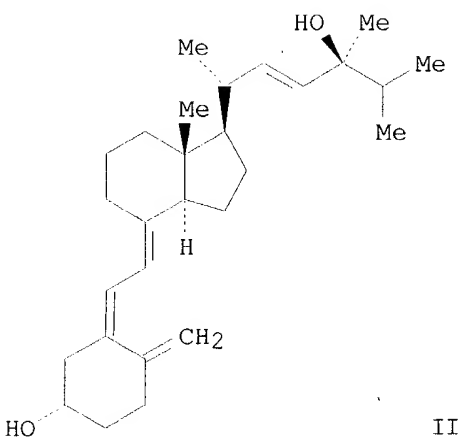
	US 2002183288	A1	20021205	US 2002-127005	20020419	<--
PRAI	US 1997-907659	A2	19970808			
	US 1988-227371	B1	19880802	<--		
	US 1990-569412	A1	19900817	<--		
	US 1991-812056	B1	19911217	<--		
	US 1993-119895	A2	19930910	<--		
	US 1995-415488	A1	19950403	<--		
	US 1997-798958	A2	19970211	<--		
	US 1997-907660	B2	19970808			
	US 1998-86969	A	19980529			
	WO 1999-US12084	W	19990528			
	US 2000-501093	A2	20000209			
OS	MARPAT 135:19817					
GI						



I



II

AB 24-Hydroxyvitamin D compds. [I; dotted line = single or double bond; R2 = H, alkyl, fluoroalkyl; R3 = H, alkyl, fluoroalkyl, alkenyl; R4,R7 = alkyl, fluoroalkyl, alkenyl, fluoroalkenyl; R8 = A{(R9)x}(R10)y; A = C, O, S, N; x,y = 0, 1; R9,R10 = H, alkyl, fluoroalkyl, alkenyl, fluoroalkenyl; Z = H,Me or CH2], were prepared for their use in the treatment and prophylaxis of hyperparathyroidism and hyperproliferative diseases, and in the modulation of the immune and inflammatory responses as well as the treatment of bone depletive disorders. Thus, 24-hydroxyvitamin D derivative II was prepared via a multistep synthetic sequence starting from ergosterol. The prepared 24-hydroxyvitamin D compds. were tested for treatment of bone mass loss in postmenopausal osteoporotic women, psoriasis, prostate cancer and various conditions of hyperparathyroidism, hyperproliferative diseases and immunol. disorders.

ST hydroxyvitamin D analog prepn prophylaxis hyperparathyroidism; vitamin D

hydroxy hyperproliferative disease immune inflammatory response; bone depletive disorder hydroxyvitamin D

IT Prostate gland
(adenocarcinoma, inhibitors; synthesis and biol. activity of 24-hydroxyvitamin D and analogs)

IT Prostate gland
(adenocarcinoma; synthesis and biol. activity of 24-hydroxyvitamin D and analogs)

IT **Estrogens**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(**conjugated**; synthesis of 24-hydroxyvitamin D and analogs and combination with other agents)

IT Bone, disease
(depletive; synthesis and biol. activity of 24-hydroxyvitamin D and analogs)

IT Immunity
(disorder; synthesis and biol. activity of 24-hydroxyvitamin D and analogs)

IT Drug delivery systems
(oral; synthesis and biol. activity of 24-hydroxyvitamin D and analogs)

IT Osteoporosis
(postmenopausal; synthesis and biol. activity of 24-hydroxyvitamin D and analogs)

IT Hyperparathyroidism
(primary; synthesis and biol. activity of 24-hydroxyvitamin D and analogs)

IT Antitumor agents
(prostate adenocarcinoma; synthesis and biol. activity of 24-hydroxyvitamin D and analogs)

IT Hyperparathyroidism
(secondary; synthesis and biol. activity of 24-hydroxyvitamin D and analogs)

IT Anti-inflammatory agents
Psoriasis
(synthesis and biol. activity of 24-hydroxyvitamin D and analogs)

IT Bone
(synthesis of 24-hydroxyvitamin D and analogs as bone agents and combination with other agents)

IT **120707-37-1P**, 24(S)-Hydroxyvitamin D2
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(synthesis and biol. activity of 24-hydroxyvitamin D and analogs)

IT **342775-38-6**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(synthesis and biol. activity of 24-hydroxyvitamin D and analogs)

IT **156316-85-7P**
RL: BPN (Biosynthetic preparation); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(synthesis and biol. activity of 24-hydroxyvitamin D and analogs)

IT 57-87-4, Ergosterol 75-16-1, Methyl magnesium bromide 108-24-7, Acetic anhydride 563-80-4, 3-Methylbutan-2-one 4233-33-4
RL: RCT (Reactant); RACT (Reactant or reagent)
(synthesis and biol. activity of 24-hydroxyvitamin D and analogs)

IT 2418-45-3P 28421-57-0P **58050-56-9P** 144871-03-4P

156316-84-6P 251445-14-4P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(synthesis and biol. activity of 24-hydroxyvitamin D and analogs)
RE.CNT 80 THERE ARE 80 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Aloia, J; Amer J Med 1988, V84, P401 MEDLINE
(2) Anon; EP 0503630 A1 1992 HCAPLUS
(3) Anon; WO 9205130 1992 HCAPLUS
(4) Anon; WO 9212165 1992 HCAPLUS
(5) Anon; EP 0562497 A1 1993 HCAPLUS
(6) Anon; WO 9314763 1993 HCAPLUS
(7) Anon; WO 9400128 1994 HCAPLUS
(8) Anon; WO 9405630 1994 HCAPLUS
(9) Anon; WO 9416711 1994 HCAPLUS
(10) Anon; EP 664287 1995 HCAPLUS
(11) Anon; WO 9640154 1996 HCAPLUS
(12) Anon; Biochem J 1995, V310(1), P233
(13) Anon; Endocrinology 1995, V136(11), P4749
(14) Anon; J Bone Min Res 1994, V9, P607
(15) Anon; The Merck Index, 11th ed 1989, P9932
(16) Aoki; US 4341774 1982 HCAPLUS
(17) Baggiolini; US 5750517 1998 HCAPLUS
(18) Binderup; US 5190935 1993 HCAPLUS
(19) Bishop; US 5972917 1999 HCAPLUS
(20) Bout; US 5304291 1994 HCAPLUS
(21) Calverley; US 4866048 1989 HCAPLUS
(22) Calverley; US 5206229 1993 HCAPLUS
(23) Calverley; US 5374629 1994 HCAPLUS
(24) Calverley; US 5710142 1998 HCAPLUS
(25) Christiansen, C; Eur J Clin Invest 1981, V11, P305 HCAPLUS
(26) Daynes; US 5518725 1996 HCAPLUS
(27) Daynes; US 5540919 1996 HCAPLUS
(28) Daynes; US 5562910 1996 HCAPLUS
(29) Deluca; US 3907843 1975 HCAPLUS
(30) Deluca; US 4195027 1980 HCAPLUS
(31) Deluca; US 4202829 1980 HCAPLUS
(32) Deluca; US 4225596 1980 HCAPLUS
(33) Deluca; US 4234495 1980 HCAPLUS
(34) Deluca; US 4260549 1981 HCAPLUS
(35) Deluca; US 4555364 1985 HCAPLUS
(36) Deluca; US 4689180 1987 HCAPLUS
(37) Deluca; US 5250523 1993 HCAPLUS
(38) Deluca; US 5561123 1996 HCAPLUS
(39) Deluca; US 4554106 1998 HCAPLUS
(40) Deluca; US 5710294 1998 HCAPLUS
(41) Deluca; US 5716946 1998 HCAPLUS
(42) Deluca; US 5750746 1998 HCAPLUS
(43) Engstrom, G; Archives of Biochemistry and Biophysics 1989, V270(2), P432 HCAPLUS
(44) Gallagher, J; Annals of Int Med 1990, V113, P649 MEDLINE
(45) Gates; US 5559107 1996 HCAPLUS
(46) Gilbert; US 5098899 1992 HCAPLUS
(47) Goethals; US 5035783 1991 HCAPLUS
(48) Hansen; US 5589471 1996 HCAPLUS
(49) Holick, M; Proc Natl Acad Sci USA 1971, V68, P803 MEDLINE
(50) Holick, M; Science 1973, V180, P190 HCAPLUS
(51) Horst, R; Biochem 1990, V29, P578 HCAPLUS
(52) Jensen, G; Clin Endocrinol 1982, V16, P515 MEDLINE

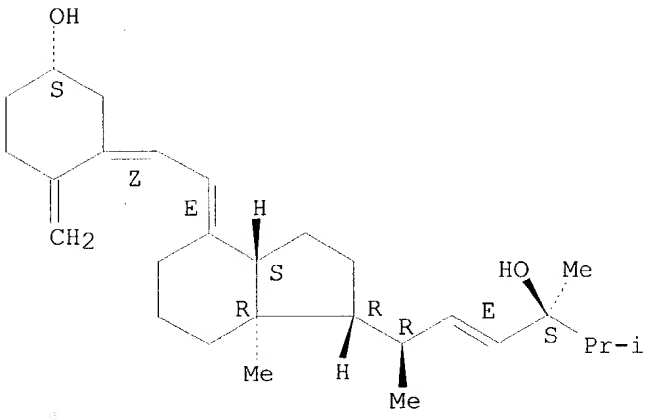
(53) Jones, G; Biochemistry 1975, V14, P1250 HCAPLUS
(54) Kubodera; US 4891364 1990 HCAPLUS
(55) Lam, H; Science 1974, V486, P1038
(56) Malluche; US 4897388 1990 HCAPLUS
(57) Manchand; J Org Chem 1995, V60, P6574 HCAPLUS
(58) Mathieu; US 5665387 1997 HCAPLUS
(59) Miller; Cancer Res 1992, V52, P515 HCAPLUS
(60) Neer; US 4698328 1987 HCAPLUS
(61) Neer; US 4833125 1989 HCAPLUS
(62) Nishigaichi; Chem Lett 1996, P961 HCAPLUS
(63) Nishii; US 5063221 1991 HCAPLUS
(64) Nishikawa; US 4388243 1983 HCAPLUS
(65) Orimo, H; Bone and Mineral 1987, V3, P47 MEDLINE
(66) Ott, S; Annals of Int Med 1989, V110, P267 MEDLINE
(67) Partridge; US 4652405 1987 HCAPLUS
(68) Pauli; US 5252191 1993 HCAPLUS
(69) Sestelo; US 5449668 1995 HCAPLUS
(70) Shiraki, M; Endocrinol Japan 1985, V32, P305 MEDLINE
(71) Sjoden, G; J Nutr 1984, V114, P2043 MEDLINE
(72) Sjoden, G; Proc Soc Exp Biol Med 1985, V178, P432 MEDLINE
(73) Skowronski; Endocrinology 1995, V136, P20 HCAPLUS
(74) Sorensen, O; Clin Endocrinol 1977, V7, P169S
(75) Steinmeyer; US 5585368 1996 HCAPLUS
(76) Steinmeyer; US 5700791 1997 HCAPLUS
(77) Strugnell; Biochem J 1995, V310, P233 HCAPLUS
(78) Suda; US 4391802 1983 HCAPLUS
(79) Truitt; US 4749710 1988 HCAPLUS
(80) White; J Chem Soc Perkin Trans 1993, P759 HCAPLUS

IT **120707-37-1P**, 24(S)-Hydroxyvitamin D2
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(synthesis and biol. activity of 24-hydroxyvitamin D and analogs)

RN 120707-37-1 HCAPLUS

CN 9,10-Secoergosta-5,7,10(19),22-tetraene-3,24-diol, (3β,5Z,7E,22E)- (9CI) (CA INDEX NAME)

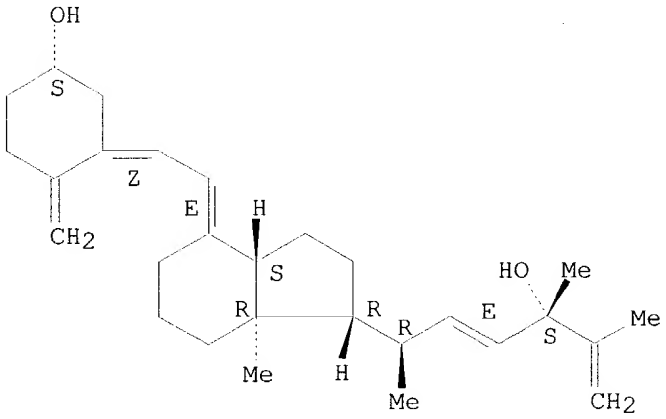
Absolute stereochemistry. Rotation (+).
Double bond geometry as shown.



IT **342775-38-6**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological

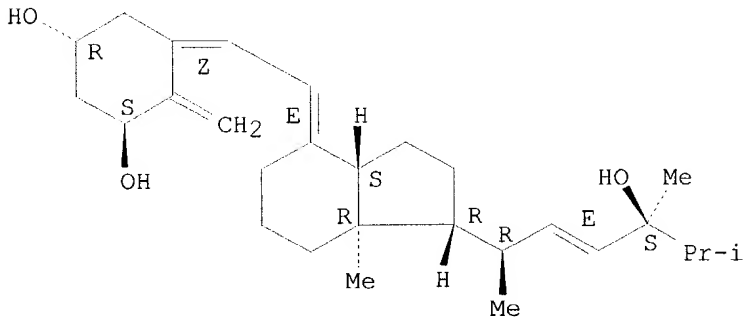
study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(synthesis and biol. activity of 24-hydroxyvitamin D and analogs)
RN 342775-38-6 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19),22,25-pentaene-3,24-diol, (3β,5Z,7E,22E,24S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



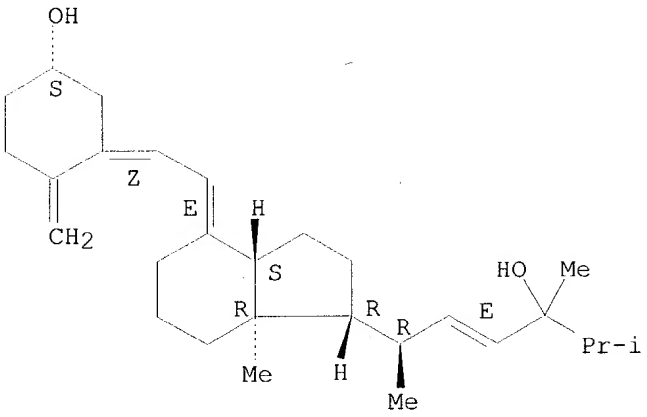
IT **156316-85-7P**
RL: BPN (Biosynthetic preparation); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(synthesis and biol. activity of 24-hydroxyvitamin D and analogs)
RN 156316-85-7 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19),22-tetraene-1,3,24-triol, (1α,3β,5Z,7E,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



IT **58050-56-9P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(synthesis and biol. activity of 24-hydroxyvitamin D and analogs)
RN 58050-56-9 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19),22-tetraene-3,24-diol, (3β,5Z,7E,22E,24ξ)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



L68 ANSWER 6 OF 23 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1999:104508 HCAPLUS
DN 130:163191
ED Entered STN: 16 Feb 1999
TI Method using a vitamin D analog for treating and preventing hyperparathyroidism
IN Knutson, Joyce C.; **Mazess, Richard B.; Bishop, Charles W.**
PA **Bone Care International, Inc., USA**
SO U.S., 9 pp., Cont.-in-part of U.S. Ser. No. 798,958.
CODEN: USXXAM
DT Patent
LA English
IC ICM A61K031-595
NCL 514167000
CC 1-10 (Pharmacology)
Section cross-reference(s): 2, 63
FAN.CNT 20

	PATENT NO.	KIND	DATE		APPLICATION NO.	DATE	
PI	US 5869473	A	19990209		US 1997-907659	19970808	<--
	US 5104864	A	19920414		US 1990-569412	19900817	<--
	US 5403831	A	19950404		US 1993-119895	19930910	<--
	US 5602116	A	19970211		US 1995-415488	19950403	<--
	US 5707980	A	19980113		US 1997-798958	19970211	<--
	US 6242434	B1	20010605		US 1998-86969	19980529	
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	US 2002183288	A1	20021205		US 2002-127005	20020419	<--
PRAI	US 1988-227371	B1	19880802	<--			
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	US 1991-812056	B1	19911217	<--			
	US 1993-119895	A2	19930910	<--			
	US 1995-415488	A1	19950403	<--			
	US 1997-798958	A2	19970211	<--			
	US 1992-812056	B1	19920305	<--			
	US 1997-907659	A2	19970808				
	US 1997-907660	B2	19970808				

US 1998-86969 A2 19980529
US 2000-501093 A2 20000209

AB A method is provided for reducing or preventing elevated blood parathyroid hormone level in a human being suffering from hyperparathyroidism by administering a sufficient amount of 1α-OH vitamin D2, 1α-OH vitamin D4 or 1α,24(R)-(OH)2 vitamin D4.

ST vitamin D analog hyperparathyroidism treatment

IT **Estrogens**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(**conjugated**; vitamin D analogs for treatment and prevention of hyperparathyroidism, and combinations with agents reducing loss of bone mass or bone mineral content)

IT Bone
(demineralization; vitamin D analogs for treatment and prevention of hyperparathyroidism, and combinations with agents reducing loss of bone mass or bone mineral content)

IT Kidney, disease
(failure, chronic, with secondary hyperparathyroidism; vitamin D analogs for treatment and prevention of hyperparathyroidism)

IT Drug delivery systems
(injections, i.m.; vitamin D analogs for treatment and prevention of hyperparathyroidism)

IT Drug delivery systems
(injections, i.v.; vitamin D analogs for treatment and prevention of hyperparathyroidism)

IT Drug delivery systems
(injections, s.c.; vitamin D analogs for treatment and prevention of hyperparathyroidism)

IT Drug delivery systems
(mucosal; vitamin D analogs for treatment and prevention of hyperparathyroidism)

IT Drug delivery systems
(nasopharyngeal; vitamin D analogs for treatment and prevention of hyperparathyroidism)

IT Drug delivery systems
(oral; vitamin D analogs for treatment and prevention of hyperparathyroidism)

IT Drug delivery systems
(parenterals; vitamin D analogs for treatment and prevention of hyperparathyroidism)

IT **Toxins**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(**pertussis**; vitamin D analogs for treatment and prevention of hyperparathyroidism, and combinations with agents reducing loss of bone mass or bone mineral content)

IT Osteoporosis
(therapeutic agents; vitamin D analogs for treatment and prevention of hyperparathyroidism)

IT Drug delivery systems
(transdermal; vitamin D analogs for treatment and prevention of hyperparathyroidism)

IT Hyperparathyroidism
Kidney, disease
(vitamin D analogs for treatment and prevention of hyperparathyroidism)

IT 7440-70-2, Calcium, biological studies

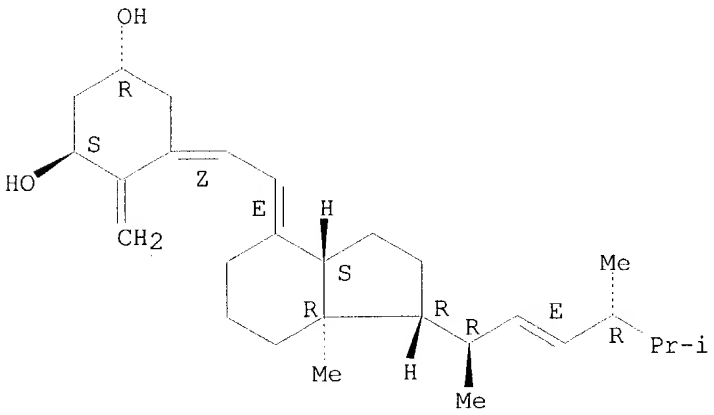
RL: ADV (Adverse effect, including toxicity); BIOL (Biological study)
(hypercalcemia; vitamin D analogs for treatment and prevention of hyperparathyroidism)
IT 7440-70-2, Calcium, biological studies
RL: ADV (Adverse effect, including toxicity); BIOL (Biological study)
(hypercalciuria; vitamin D analogs for treatment and prevention of hyperparathyroidism)
IT 7723-14-0, Phosphorus, biological studies
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(serum; vitamin D analogs for treatment and prevention of hyperparathyroidism)
IT 1406-16-2D, Vitamin D, analogs **54573-75-0 143032-85-3 157893-62-4**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(vitamin D analogs for treatment and prevention of hyperparathyroidism)
IT 7440-70-2, Calcium, biological studies 9002-64-6, Parathyroid hormone **32222-06-3**, 1α,25-Dihydroxyvitamin D3 **60133-18-8**, 1α,25-Dihydroxyvitamin D2 66772-14-3, 1α,25-Dihydroxyvitamin D
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(vitamin D analogs for treatment and prevention of hyperparathyroidism)
IT **7440-42-8**, Boron, biological studies 7681-49-4, Sodium fluoride, biological studies **13408-78-1**, Cobalamin 13598-36-2D, Phosphonic acid, bisphosphonates
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(vitamin D analogs for treatment and prevention of hyperparathyroidism, and combinations with agents reducing loss of bone mass or bone mineral content)
RE.CNT 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Aloia, J; Amer J Med 1988, V84, P401 MEDLINE
(2) Anon; Biochem J 1995, V310(1), P233
(3) Anon; Endocrinology 1985, V136(11), P4749
(4) Anon; J Bone Min Res 1994, V9, P607
(5) Anon; The Merck Index 11th ed 1989, P9932
(6) Christiansen, C; Eur J Clin Invest 1981, V11, P305 HCAPLUS
(7) DeLuca; US 3907843 1975 HCAPLUS
(8) DeLuca; US 4195027 1980 HCAPLUS
(9) DeLuca; US 4202829 1980 HCAPLUS
(10) DeLuca; US 4234495 1980 HCAPLUS
(11) DeLuca; US 4260549 1981 HCAPLUS
(12) DeLuca; US 4554106 1985 HCAPLUS
(13) DeLuca; US 4555364 1985 HCAPLUS
(14) Gallagher, J; Annals of Int Med 1990, V113, P649 MEDLINE
(15) Holick, M; Proc Natl Acad Sci USA 1971, V68, P803 MEDLINE
(16) Holick, M; Science 1973, V180(190), P191
(17) Jensen, G; Clin Endocrinol 1982, V16, P515 MEDLINE
(18) Jones, G; Biochemistry 1975, V14, P1250 HCAPLUS
(19) Lam, H; Science 1974, V486, P1038
(20) Nishii; US 5063221 1991 HCAPLUS
(21) Orimo, H; Bone and Mineral 1987, V3, P47 MEDLINE
(22) Ott, S; Annals of Int Med 1989, V110, P267 MEDLINE
(23) Shiraki, M; Endocrincol Japan 1985, V32, P305 MEDLINE

(24) Sjoden, G; J Nutr 1984, V114, P2043 MEDLINE
(25) Sjoden, G; Proc Soc Exp Biol Med 1985, V178, P432 MEDLINE
(26) Sorensen, O; Clin Endocrinol 1977, V7, P169S

IT **54573-75-0 143032-85-3 157893-62-4**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(vitamin D analogs for treatment and prevention of hyperparathyroidism)

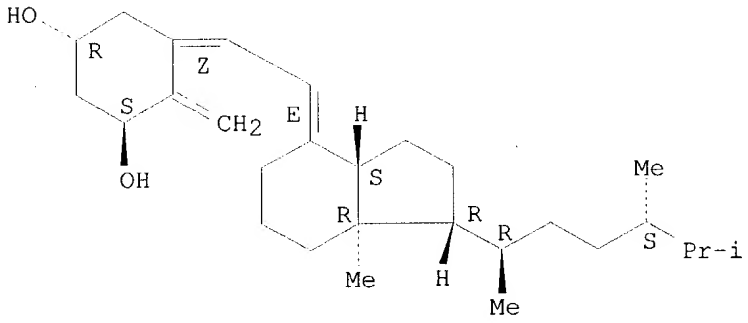
RN 54573-75-0 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19),22-tetraene-1,3-diol, (1α,3β,5Z,7E,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



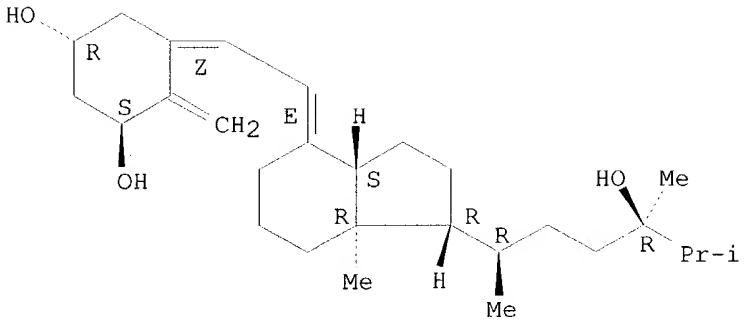
RN 143032-85-3 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19)-triene-1,3-diol, (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



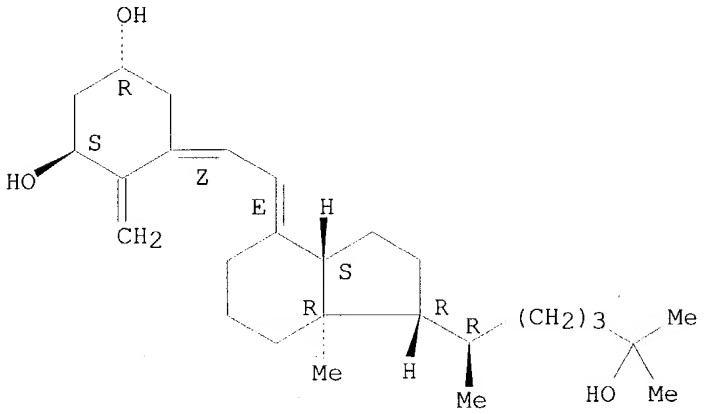
RN 157893-62-4 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19)-triene-1,3,24-triol, (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



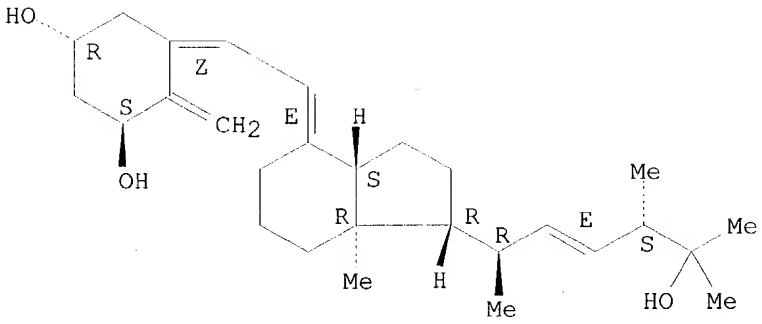
IT **32222-06-3**, 1α,25-Dihydroxyvitamin D3 **60133-18-8**,
1α,25-Dihydroxyvitamin D2
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(vitamin D analogs for treatment and prevention of hyperparathyroidism)
RN 32222-06-3 HCAPLUS
CN 9,10-Secocholesta-5,7,10(19)-triene-1,3,25-triol, (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).
Double bond geometry as shown.



RN 60133-18-8 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19),22-tetraene-1,3,25-triol, (1α,3β,5Z,7E,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

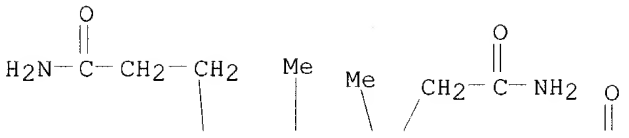


IT **7440-42-8**, Boron, biological studies **13408-78-1**, Cobalamin
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(vitamin D analogs for treatment and prevention of hyperparathyroidism, and combinations with agents reducing loss of bone mass or bone mineral content)
RN 7440-42-8 HCAPLUS
CN Boron (8CI, 9CI) (CA INDEX NAME)

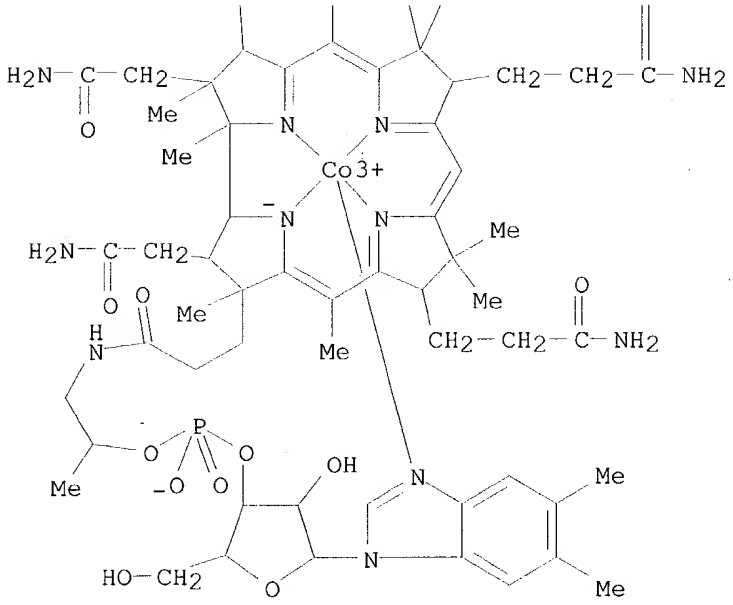
B

RN 13408-78-1 HCAPLUS
CN Cobinamide, dihydrogen phosphate (ester), inner salt, 3'-ester with (5,6-dimethyl-1-α-D-ribofuranosyl-1H-benzimidazole-κN3), ion(1+) (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



L68 ANSWER 7 OF 23 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1998:568745 HCAPLUS

DN 129:193708
ED Entered STN: 07 Sep 1998
TI Targeted therapeutic delivery of vitamin D compounds
IN **Mazess, Richard B.; Bishop, Charles W.**
PA **Bone Care International, Inc., USA**
SO PCT Int. Appl., 55 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM A61K047-48
ICS A61K031-59
CC 63-5 (Pharmaceuticals)
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9835704	A1	19980820	WO 1998-US2899	19980213
	W: AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LT, LU, LV, MD, MG, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TT, UA, UG, US, UZ, VN				
	RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
	AU 9863267	A1	19980908	AU 1998-63267	19980213
	AU 750451	B2	20020718		
	EP 981376	A1	20000301	EP 1998-907468	19980213
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	NZ 336924	A	20010629	NZ 1998-336924	19980213
	JP 2001511811	T2	20010814	JP 1998-535974	19980213
	BR 9815442	A	20010821	BR 1998-15442	19980213
	US 2002136731	A1	20020926	US 2000-402636	20000426 <--
	US 2003129194	A1	20030710	US 2002-251905	20020920
PRAI	US 1997-38364P	P	19970213		
	WO 1998-US2899	W	19980213		
	US 2000-402636	A2	20000426		

AB The present invention is directed to a **conjugate** which includes at least one vitamin D moiety thereof and at least one targeting mol. moiety to pharmaceutical compns. of the **conjugate**, and to methods for using the **conjugate** for target-specific delivery of vitamin D or analogs thereof to tissues in need thereof. When a particularly preferred form is administered to a patient, the targeting mol. component of the **conjugate** of this invention seeks out and binds to a tissue of interest, such as bone or tumor tissue, where the vitamin D has a therapeutic effect. A **conjugate** of 1α,24-dihydroxyvitamin D2 and aminoalkyl 1,1-bisphosphonate linked at C-24 of the vitamin D moiety was prepared

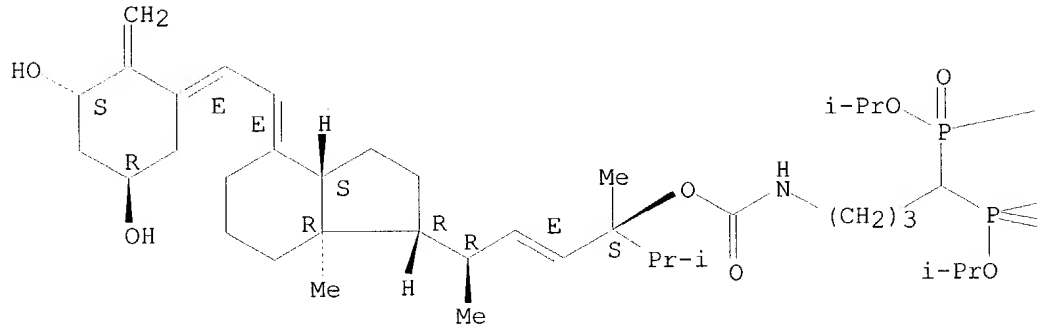
ST drug targeting vitamin D2 bisphosphonate **conjugate**
IT Estrogens
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(antiestrogens; vitamin D2 **conjugates** for targeted delivery)
IT Estrogens
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(**conjugated**; vitamin D2 **conjugates** for targeted delivery)
IT Drug delivery systems
(enteric-coated; vitamin D2 **conjugates** for targeted delivery)
IT Drug delivery systems
(oral; vitamin D2 **conjugates** for targeted delivery)

IT Toxins
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(pertussis; vitamin D2 **conjugates** for targeted delivery)
IT Bone, disease
(treatment of; vitamin D2 **conjugates** for targeted delivery)
IT Antitumor agents
Cytotoxic agents
Drug targeting
(vitamin D2 **conjugates** for targeted delivery)
IT Bone morphogenetic proteins
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(vitamin D2 **conjugates** for targeted delivery)
IT Transforming growth factors
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(β-; vitamin D2 **conjugates** for targeted delivery)
IT 75-44-5, Phosgene 107-30-2, Chloromethyl methyl ether 18162-48-6, tert-Butyldimethylsilyl chloride 70550-73-1 81522-68-1 144034-23-1 211865-86-0
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of vitamin D2 analog-bisphosphonate **conjugates** for targeted delivery)
IT 140710-96-9P 211865-87-1P 211865-88-2P **211865-89-3P**
211865-90-6P 211865-92-8P **211865-93-9P** 211865-94-0P
211865-95-1P 211865-96-2P 211865-97-3P 211865-98-4P 211865-99-5P
211866-01-2P 211866-02-3P 211866-03-4P 211866-04-5P 211866-06-7P
211866-07-8P **211866-08-9P** 211866-09-0P 211866-10-3P
211866-11-4P 211866-12-5P 211866-13-6P 211866-15-8P 211866-16-9P
211866-17-0P 211866-19-2P 211866-20-5P **211866-21-6P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of vitamin D2 analog-bisphosphonate **conjugates** for targeted delivery)
IT **211865-91-7P** 211866-00-1P 211866-05-6P 211866-14-7P
211866-18-1P **211866-22-7P**
RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of vitamin D2 analog-bisphosphonate **conjugates** for targeted delivery)
IT 51-21-8, 5-Fluorouracil 53-43-0, Dehydroepiandrosterone 59-05-2, Methotrexate 60-54-8, Tetracycline 127-07-1, Hydroxyurea 148-82-3, Melphalan 1404-00-8, Mitomycin 7440-42-8, Boron, biological studies 9007-12-9, Calcitonin 13408-78-1, Cobalamin 15663-27-1, Cisplatin 20830-81-3, Daunomycin 25316-40-9, Adriamycin 29069-24-7, Prednimustine 58957-92-9, Idarubicin 62899-40-5, Estromustine 114949-22-3, Activin
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(vitamin D2 **conjugates** for targeted delivery)
RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Bouillon, R; US 5232836 A 1993 HCAPLUS
(2) Isis Pharmaceuticals Inc; WO 9307883 A 1993 HCAPLUS
(3) Londowski, J; J PHARMACOL EXP THER 1986, V237(3), P837 HCAPLUS
(4) Peterson, A; US 5691328 A 1997 HCAPLUS
IT **211865-89-3P 211865-90-6P 211865-93-9P**
211866-08-9P 211866-21-6P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of vitamin D2 analog-bisphosphonate **conjugates** for targeted delivery)

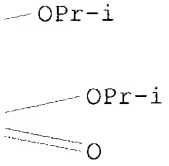
RN 211865-89-3 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19),22-tetraene-1,3,24-triol, 24-[[4,4-bis[bis(1-methylethoxy)phosphinyl]butyl]carbamate], (1α,3β,5E,7E,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A

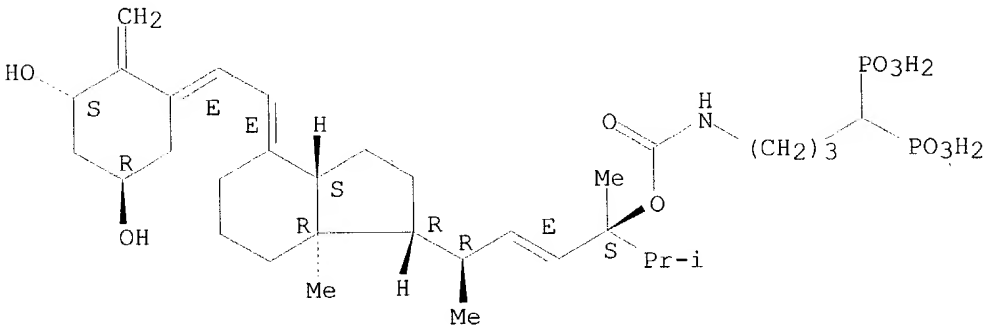


PAGE 1-B



RN 211865-90-6 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19),22-tetraene-1,3,24-triol, 24-[(4,4-diphosphonobutyl)carbamate] (9CI) (CA INDEX NAME)

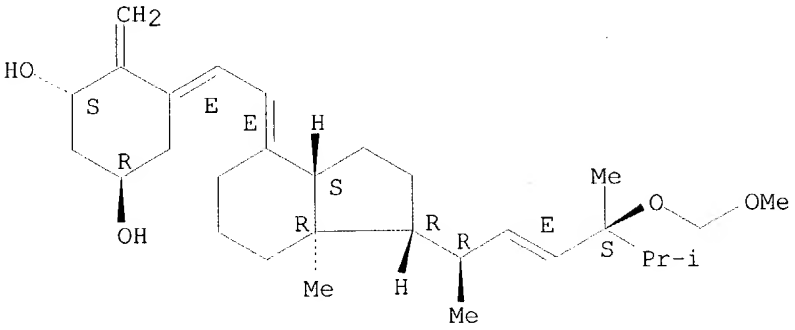
Absolute stereochemistry.
Double bond geometry as shown.



RN 211865-93-9 HCAPLUS

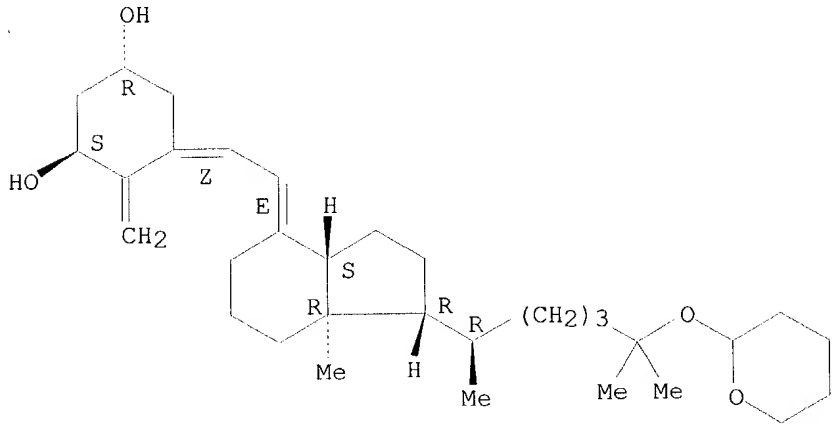
CN 9,10-Secoergosta-5,7,10(19),22-tetraene-1,3-diol, 24-(methoxymethoxy)-, (1α,3β,5E,7E,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



RN 211866-08-9 HCAPLUS
CN 9,10-Secocholesta-5,7,10(19)-triene-1,3-diol, 25-[(tetrahydro-2H-pyran-2-yl)oxy]-, (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

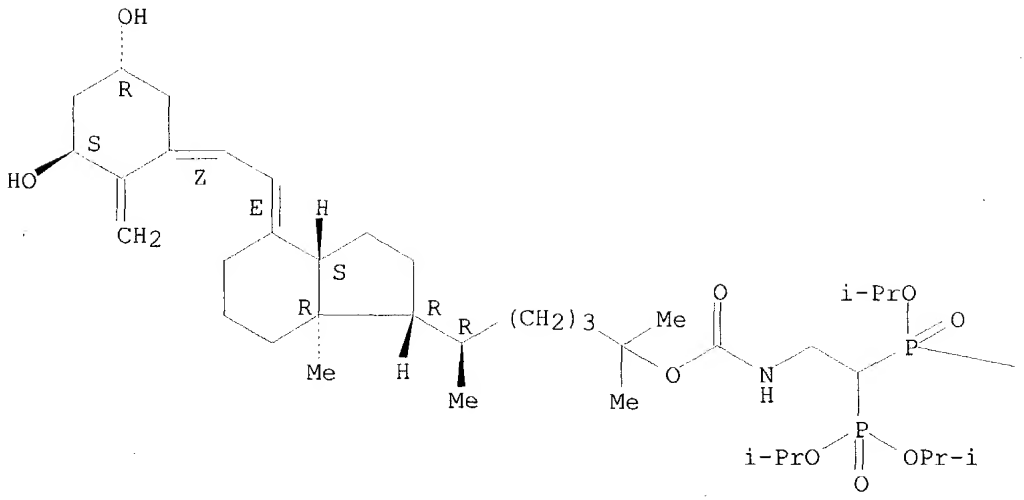
Absolute stereochemistry.
Double bond geometry as shown.



RN 211866-21-6 HCAPLUS
CN 9,10-Secocholesta-5,7,10(19)-triene-1,3,25-triol, 25-[2,2-bis[bis(1-methylethoxy)phosphinyl]ethyl]carbamate, (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



PAGE 1-B

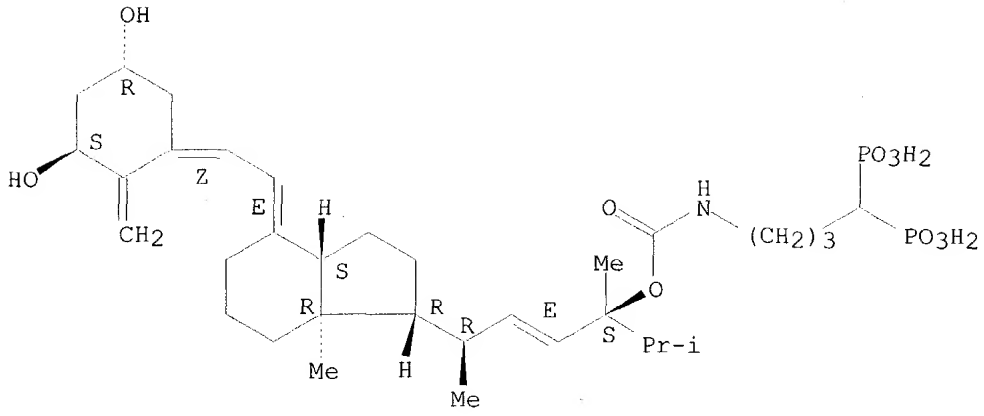
OPr-i

IT **211865-91-7P 211866-22-7P**
RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of vitamin D2 analog-bisphosphonate **conjugates** for targeted delivery)

RN 211865-91-7 HCAPLUS

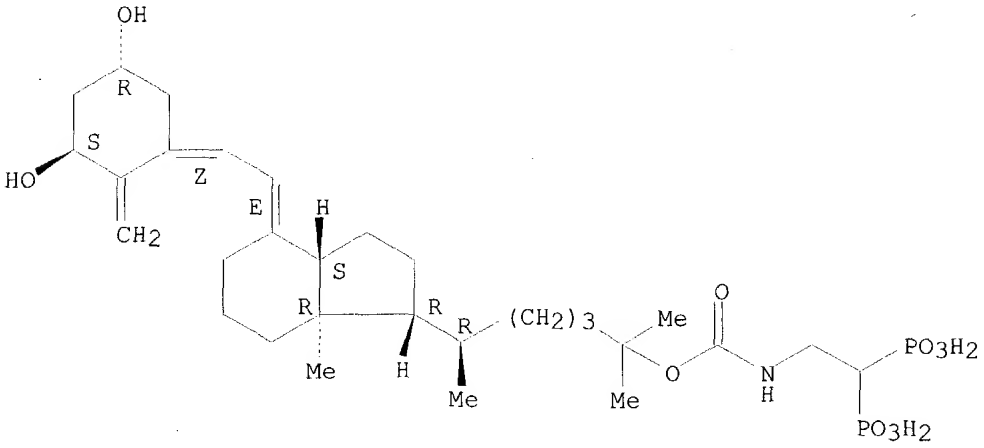
CN 9,10-Secoergosta-5,7,10(19),22-tetraene-1,3,24-triol, 24-[(4,4-diphosphonobutyl)carbamate], (1α,3β,5Z,7E,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



RN 211866-22-7 HCAPLUS
CN 9,10-Secocholesta-5,7,10(19)-triene-1,3,25-triol, 25-[(2,2-diphosphonoethyl)carbamate], (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



L68 ANSWER 8 OF 23 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1998:564197 HCAPLUS
DN 129:170519
ED Entered STN: 04 Sep 1998
TI Method of treating prostatic diseases using delayed and/or sustained-release vitamin D formulations
IN **Bishop, Charles W.**; Knutson, Joyce C.; Valliere, Charles R.
PA **Bone Care International, Inc., USA**
SO U.S., 17 pp., Cont.-in-part of U. S. 5,614,513.
CODEN: USXXAM
DT Patent
LA English
IC ICM A01N045-00
NCL 514170000

CC 1-6 (Pharmacology)
Section cross-reference(s): 63
FAN.CNT 4

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5795882	A	19980818	US 1996-775447	19961230 <--
	US 5529991	A	19960625	US 1994-196116	19940222 <--
	US 5614513	A	19970325	US 1995-485354	19950607 <--
	US 6147064	A	20001114	US 1995-476420	19950607 <--
	US 6150346	A	20001121	US 1995-474757	19950607 <--
	US 6133250	A	20001017	US 1996-700798	19960821 <--
	WO 9829105	A2	19980709	WO 1997-US22034	19971210 <--
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	RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
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	AU 724153	B2	20000914		
	EP 951286	A2	19991027	EP 1997-949716	19971210 <--
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	US 1994-196116	A3	19940222 <--		
	US 1995-485354	A2	19950607 <--		
	US 1994-188942	A3	19940126 <--		
	US 1996-775447	A	19961230 <--		
	WO 1997-US22034	W	19971210		

AB A method of treating prostatic conditions such as prostate cancer and hyperplasia involves administering 1α-hydroxyprevitamin D or activated vitamin D or a combination thereof in a sustained-release form or a delayed and sustained-release formulation. Both the sustained-release form and the delayed, sustained-release form deliver increased active vitamin D blood levels without significant risk of hypercalcemia associated with other oral dosing of vitamin D forms, to provide the beneficial effect to the diseased prostate tissue. Patients with advanced androgen-independent prostate cancer were treated orally with 1α,24-dihydroxyprevitamin D2.

ST prostate cancer treatment vitamin D formulation; hydroxyprevitamin D sustained release prostate disease

IT Bone
(agent, as second agent; delayed and/or sustained-release vitamin D formulations for treating prostatic diseases)

IT Androgens
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(antiandrogens, as androgen control agent, as second agent; delayed and/or sustained-release vitamin D formulations for treating prostatic diseases)

IT **Estrogens**
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(**antiestrogens**, as androgen control agent and bone agent, as second agent; delayed and/or sustained-release vitamin D formulations

for treating prostatic diseases)
IT Estrogens
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(as androgen control agent, as second agent; delayed and/or sustained-release vitamin D formulations for treating prostatic diseases)
IT Prostate gland
(benign hyperplasia; delayed and/or sustained-release vitamin D formulations for treating prostatic diseases)
IT Drug delivery systems
(capsules, enteric-coated, sustained-release; delayed and/or sustained-release vitamin D formulations for treating prostatic diseases)
IT Drug delivery systems
(capsules, sustained-release, enteric-coated; delayed and/or sustained-release vitamin D formulations for treating prostatic diseases)
IT **Estrogens**
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(**conjugated**, as bone agent, as second agent; delayed and/or sustained-release vitamin D formulations for treating prostatic diseases)
IT Androgens
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(control agent, as second agent; delayed and/or sustained-release vitamin D formulations for treating prostatic diseases)
IT Antitumor agents
(delayed and/or sustained-release vitamin D formulations for treating prostatic diseases)
IT Prostate gland
(disease; delayed and/or sustained-release vitamin D formulations for treating prostatic diseases)
IT Drug delivery systems
(enteric-coated; delayed and/or sustained-release vitamin D formulations for treating prostatic diseases)
IT Prostate gland
(neoplasm, inhibitors; delayed and/or sustained-release vitamin D formulations for treating prostatic diseases)
IT Drug delivery systems
Drug delivery systems
(oral, controlled-release; delayed and/or sustained-release vitamin D formulations for treating prostatic diseases)
IT Drug delivery systems
Drug delivery systems
(oral, sustained release; delayed and/or sustained-release vitamin D formulations for treating prostatic diseases)
IT **Toxins**
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(**pertussis**, as bone agent, as second agent; delayed and/or sustained-release vitamin D formulations for treating prostatic diseases)
IT Vitamin D receptors
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(previtamin binding affinity to; delayed and/or sustained-release vitamin D formulations for treating prostatic diseases)
IT Antitumor agents
(prostate gland; delayed and/or sustained-release vitamin D formulations for treating prostatic diseases)

IT 1406-16-2, Vitamin D
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(active, matrix-bound; delayed and/or sustained-release vitamin D formulations for treating prostatic diseases)
IT 98319-26-7, Finasteride
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(as 5α-reductase inhibitor, as second agent; delayed and/or sustained-release vitamin D formulations for treating prostatic diseases)
IT 9034-40-6D, LHRH, analog
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(as androgen control agent, as second agent; delayed and/or sustained-release vitamin D formulations for treating prostatic diseases)
IT **7440-42-8**, Boron, biological studies 7681-49-4, Sodium fluoride, biological studies **9007-12-9**, Calcitonin **13408-78-1**, Cobalamin 13598-36-2D, Phosphonic acid, alkylidenebis- derivs.
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(as bone agent, as second agent; delayed and/or sustained-release vitamin D formulations for treating prostatic diseases)
IT 51-21-8, 5-Fluorouracil 59-05-2, Methotrexate 127-07-1, Hydroxyurea 148-82-3, Melphalan 1404-00-8, Mitomycin 4891-15-0, Estramustine phosphate 15663-27-1, Cisplatin 20830-81-3, Daunomycin 25316-40-9, Adriamycin 29069-24-7, Prednimustine 58957-92-9, Idarubicin
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(as second anticancer agent; delayed and/or sustained-release vitamin D formulations for treating prostatic diseases)
IT **124043-51-2**, 1α,24-Dihydroxyvitamin D2
RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); BSU (Biological study, unclassified); FMU (Formation, unclassified); MFM (Metabolic formation); THU (Therapeutic use); BIOL (Biological study); FORM (Formation, nonpreparative); PROC (Process); USES (Uses)
(delayed and/or sustained-release vitamin D formulations for treating prostatic diseases)
IT **131249-38-2**, 1α,25-Dihydroxyvitamin D4 **157893-62-4**, 1α,24-Dihydroxyvitamin D4
RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(delayed and/or sustained-release vitamin D formulations for treating prostatic diseases)
IT **32222-06-3**, 1α,25-Dihydroxyvitamin D3
RL: BPR (Biological process); BSU (Biological study, unclassified); FMU (Formation, unclassified); MFM (Metabolic formation); THU (Therapeutic use); BIOL (Biological study); FORM (Formation, nonpreparative); PROC (Process); USES (Uses)
(delayed and/or sustained-release vitamin D formulations for treating prostatic diseases)
IT 57102-09-7, 1α,25-Dihydroxyprevitamin D3 179189-33-4, 1α,24-Dihydroxyprevitamin D2
RL: BPR (Biological process); BSU (Biological study, unclassified); PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(delayed and/or sustained-release vitamin D formulations for treating prostatic diseases)
IT 182374-18-1
RL: BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)

(delayed and/or sustained-release vitamin D formulations for treating prostatic diseases)

IT **54573-75-0**, 1α-Hydroxyvitamin D2
RL: FMU (Formation, unclassified); THU (Therapeutic use); BIOL (Biological study); FORM (Formation, nonpreparative); USES (Uses)
(delayed and/or sustained-release vitamin D formulations for treating prostatic diseases)

IT 127264-18-0, 1α-Hydroxyprevitamin D2
RL: PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(delayed and/or sustained-release vitamin D formulations for treating prostatic diseases)

IT 1406-16-2D, Vitamin D, compds. **41294-56-8**, 1α-Hydroxyvitamin D3 41461-13-6, 1α-Hydroxyprevitamin D3 **60133-18-8**, 1α,25-Dihydroxyvitamin D2 **60965-80-2**, 1α,24-Dihydroxyvitamin D3 64419-01-8 125732-36-7, 1α,25-Dihydroxyprevitamin D2 **143032-85-3**, 1α-Hydroxyvitamin D4 153210-43-6, 1α,25-Dihydroxyprevitamin D4 210040-94-1, 1α-Hydroxyprevitamin D4
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(delayed and/or sustained-release vitamin D formulations for treating prostatic diseases)

IT 7440-70-2, Calcium, biological studies
RL: ADV (Adverse effect, including toxicity); BIOL (Biological study)
(hypercalcemia; active vitamin D serum levels not causing; delayed and/or sustained-release vitamin D formulations for treating prostatic diseases)

IT 64-17-5, Ethanol, biological studies 67-56-1, Methanol, biological studies 67-64-1, Acetone, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(in preparation of gelatin capsule matrix and enteric coating; delayed and/or sustained-release vitamin D formulations for treating prostatic diseases)

IT 14807-96-6, Talc, biological studies 25086-15-1, Eudragit L100 95660-30-3, Eudragit S90
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(in preparation of gelatin capsule matrix enteric coating; delayed and/or sustained-release vitamin D formulations for treating prostatic diseases)

IT 57-11-4, Stearic acid, biological studies 33434-24-1, Eudragit RS100
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(in preparation of gelatin capsule matrix; delayed and/or sustained-release vitamin D formulations for treating prostatic diseases)

IT 9081-34-9, 5α-Reductase
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(inhibitor, as second agent; delayed and/or sustained-release vitamin D formulations for treating prostatic diseases)

IT 77-89-4, Acetyl triethyl citrate
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(plasticizer in preparation of gelatin capsule matrix enteric coating; delayed and/or sustained-release vitamin D formulations for treating prostatic diseases)

IT 7440-70-2, Calcium, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(supplement, as bone agent, as second agent; delayed and/or sustained-release vitamin D formulations for treating prostatic diseases)

RE.CNT 42 THERE ARE 42 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE

(1) Anon; EP 0070588 1983 HCAPLUS
(2) Anon; JP 59-10562 S 1984
(3) Anon; WO 8404527 1984 HCAPLUS
(4) Anon; EP 0215956 1987 HCAPLUS
(5) Anon; 1988 HCAPLUS
(6) Anon; EP 0306236 1989 HCAPLUS
(7) Anon; 1990 HCAPLUS
(8) Anon; WO 9009179 1990 HCAPLUS
(9) Anon; 1991 HCAPLUS
(10) Anon; 1991 HCAPLUS
(11) Anon; WO 9209271 1992 HCAPLUS
(12) Anon; 1994 HCAPLUS
(13) Anon; 1994 HCAPLUS
(14) Anon; AU 649802 1994 HCAPLUS
(15) Anon; AU 650286 1994 HCAPLUS
(16) Anon; 1995 HCAPLUS
(17) Anon; 1996 HCAPLUS
(18) Anon; 1996 HCAPLUS
(19) Boer; US 2216719 1940 HCAPLUS
(20) Braunwald, E; Harrison's Principles of Internal Medicine:Part Eleven "Disorders of Bone & Mineral Metabolism" Chapter 335 1987, P1860
(21) Curtin, M; J Am Chem Soc 1991, V113, P6958 HCAPLUS
(22) Deluca; US 4505906 1985 HCAPLUS
(23) Eckenhoff; US 4684524 1987 HCAPLUS
(24) Grodberg; US 5013728 1991 HCAPLUS
(25) Helund; J Steroid Biochem Molec Biol 1996, V58(3), P277
(26) Holick; US 4230701 1980 HCAPLUS
(27) Holick; US 4335120 1982 HCAPLUS
(28) Holick; US 4728643 1988 HCAPLUS
(29) Holick, M; Transactions of the Association of American Physicians 1979, VXCII, P54
(30) Hsieh; Biochem Biophys Res Commun 1996, V223(1), P141 HCAPLUS
(31) Labrie; US 5372996 1994 HCAPLUS
(32) Lehmann, K; Int J Pharm Tech & Prod Mfr 1981, V2(4), P31 HCAPLUS
(33) Miller; Cancer Res 1992, V52, P515 HCAPLUS
(34) Miller; Clinical Cancer Res 1995, V1(9), P997 HCAPLUS
(35) Rosenberg; US 2434015 1948 HCAPLUS
(36) Schwartz; Anticancer Res J 1994, V14, P1077 HCAPLUS
(37) Skowronski; Endocrinology 1993, V132, P1952 HCAPLUS
(38) Skowronski; Endocrinology 1995, V136, P20 HCAPLUS
(39) Skowronski; Proc Workshop Vitamin D, 9th (Vit D) 1994, P520 HCAPLUS
(40) Suda; US 4391802 1983 HCAPLUS
(41) Takahashi, M; 1989 HCAPLUS
(42) Vandewalle; US 4539153 1985 HCAPLUS

IT **7440-42-8**, Boron, biological studies **9007-12-9**, Calcitonin **13408-78-1**, Cobalamin
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(as bone agent, as second agent; delayed and/or sustained-release vitamin D formulations for treating prostatic diseases)

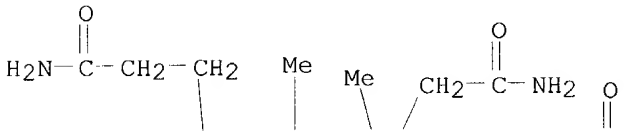
RN 7440-42-8 HCAPLUS
CN Boron (8CI, 9CI) (CA INDEX NAME)

B

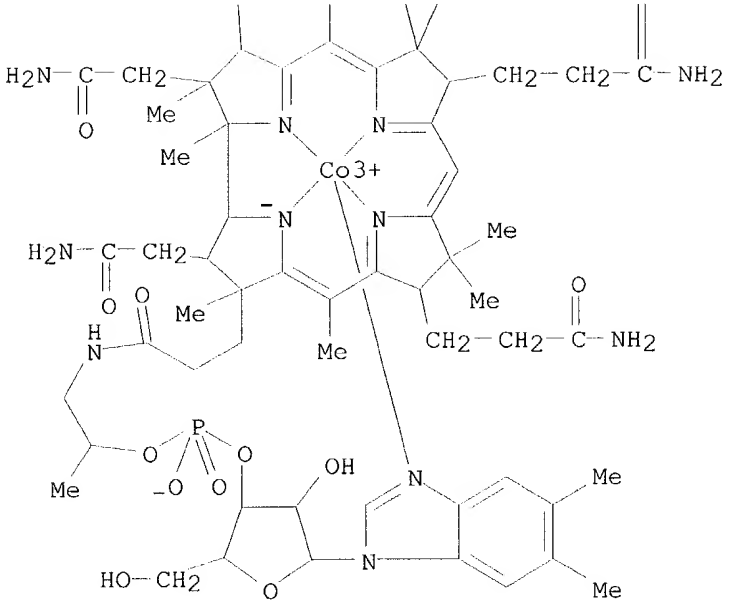
RN 9007-12-9 HCAPLUS
CN Calcitonin (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 13408-78-1 HCAPLUS
CN Cobinamide, dihydrogen phosphate (ester), inner salt, 3'-ester with (5,6-dimethyl-1-α-D-ribofuranosyl-1H-benzimidazole-κN3), ion(1+) (9CI) (CA INDEX NAME)

PAGE 1-A

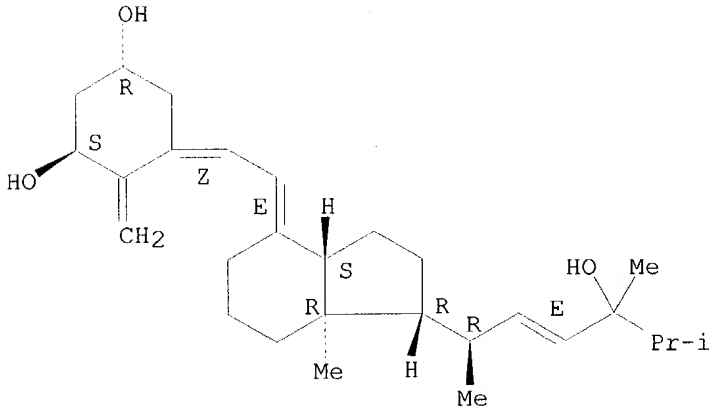


PAGE 2-A



IT **124043-51-2**, 1α,24-Dihydroxyvitamin D2
RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); BSU (Biological study, unclassified); FMU (Formation, unclassified); MFM (Metabolic formation); THU (Therapeutic use); BIOL (Biological study); FORM (Formation, nonpreparative); PROC (Process); USES (Uses)
(delayed and/or sustained-release vitamin D formulations for treating prostatic diseases)
RN 124043-51-2 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19),22-tetraene-1,3,24-triol, (1α,3β,5Z,7E,22E,24ξ)- (9CI) (CA INDEX NAME)

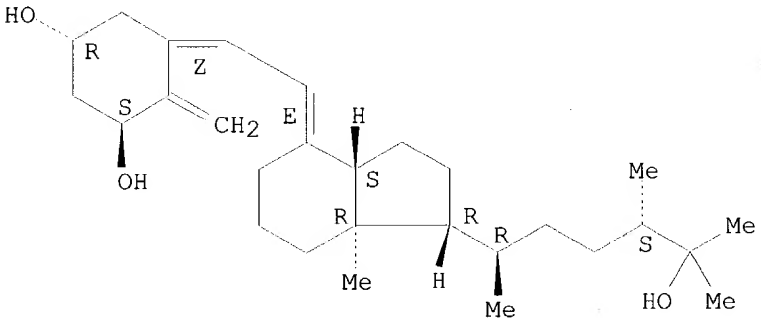
Absolute stereochemistry.
Double bond geometry as shown.



IT **131249-38-2**, 1α,25-Dihydroxyvitamin D4 **157893-62-4**

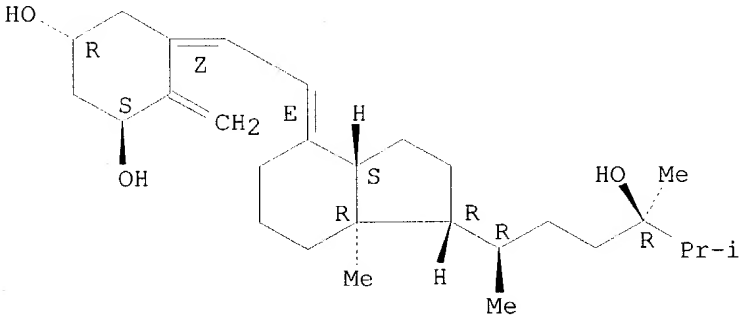
, 1α,24-Dihydroxyvitamin D4
RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(delayed and/or sustained-release vitamin D formulations for treating prostatic diseases)
RN 131249-38-2 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19)-triene-1,3,25-triol, (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



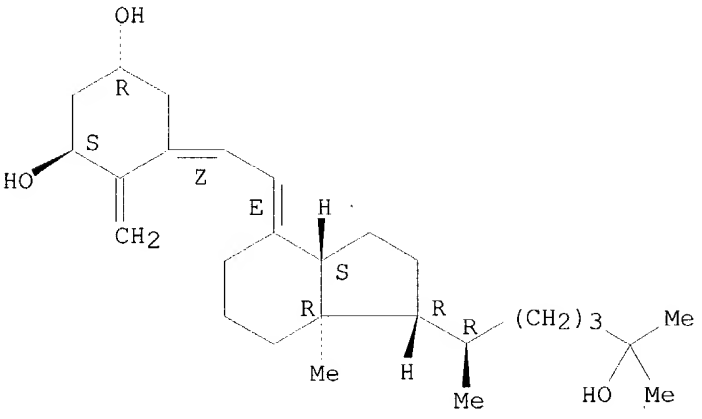
RN 157893-62-4 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19)-triene-1,3,24-triol, (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



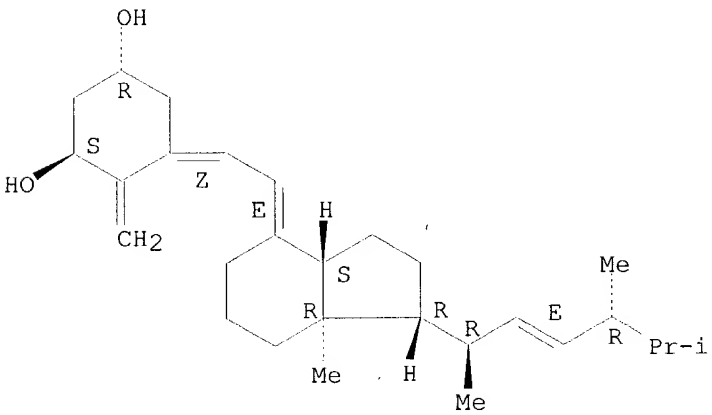
IT **32222-06-3**, 1α,25-Dihydroxyvitamin D3
RL: BPR (Biological process); BSU (Biological study, unclassified); FMU (Formation, unclassified); MFM (Metabolic formation); THU (Therapeutic use); BIOL (Biological study); FORM (Formation, nonpreparative); PROC (Process); USES (Uses)
(delayed and/or sustained-release vitamin D formulations for treating prostatic diseases)
RN 32222-06-3 HCAPLUS
CN 9,10-Secocholesta-5,7,10(19)-triene-1,3,25-triol, (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).
Double bond geometry as shown.



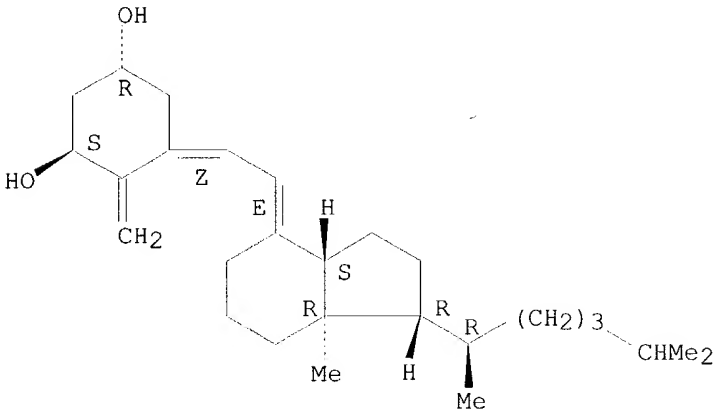
IT **54573-75-0**, 1α-Hydroxyvitamin D2
RL: FMU (Formation, unclassified); THU (Therapeutic use); BIOL (Biological study); FORM (Formation, nonpreparative); USES (Uses)
(delayed and/or sustained-release vitamin D formulations for treating prostatic diseases)
RN 54573-75-0 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19),22-tetraene-1,3-diol, (1α,3β,5Z,7E,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



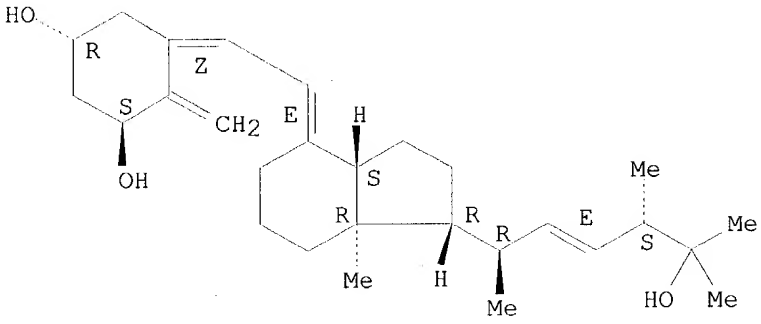
IT **41294-56-8**, 1α-Hydroxyvitamin D3 **60133-18-8**, 1α,25-Dihydroxyvitamin D2 **60965-80-2**, 1α,24-Dihydroxyvitamin D3 **143032-85-3**, 1α-Hydroxyvitamin D4
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(delayed and/or sustained-release vitamin D formulations for treating prostatic diseases)
RN 41294-56-8 HCAPLUS
CN 9,10-Secocholesta-5,7,10(19)-triene-1,3-diol, (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).
Double bond geometry as shown.



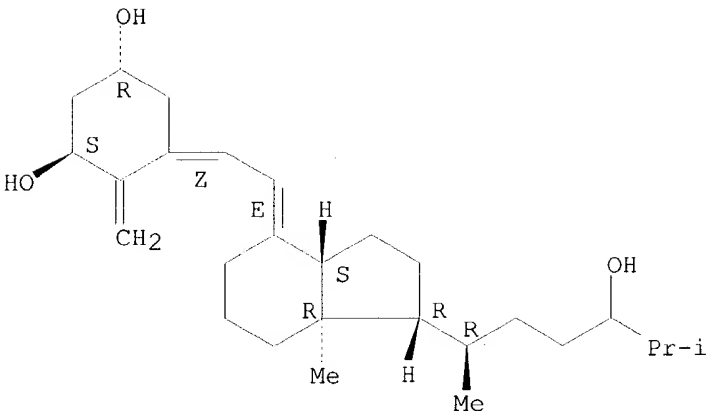
RN 60133-18-8 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19),22-tetraene-1,3,25-triol, (1α,3β,5Z,7E,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



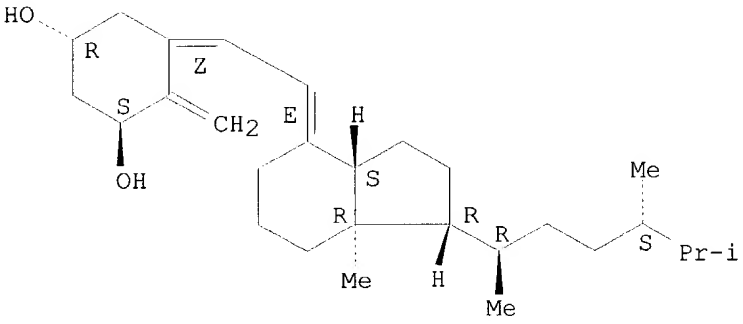
RN 60965-80-2 HCAPLUS
CN 9,10-Secocholesta-5,7,10(19)-triene-1,3,24-triol, (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



RN 143032-85-3 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19)-triene-1,3-diol, (1α,3β,5Z,7E)-
(9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



L68 ANSWER 9 OF 23 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1998:197408 HCAPLUS
DN 128:275086
ED Entered STN: 06 Apr 1998
TI Phospholipid drug derivatives
IN Chasalow, Fred I.
PA Amur Pharmaceuticals, Inc., USA; Chasalow, Fred I.
SO PCT Int. Appl., 22 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM A61K038-00
ICS A61K031-70; A61K031-675; A61K031-335
CC 63-6 (Pharmaceuticals)
Section cross-reference(s): 32
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9811906	A1	19980326	WO 1997-US17640	19970917 <--

W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG

AU 9748928	A1	19980414	AU 1997-48928	19970917	<--	
EP 948341	A1	19991013	EP 1997-911603	19970917	<--	
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JP 2002514183	T2	20020514	JP 1998-515030	19970917	<--	
US 6127349	A	20001003	US 1998-49818	19980327	<--	
PRAI US 1996-714864	A	19960917	<--			
US 1997-799171	A1	19970214				
WO 1997-US17640	W	19970917				

AB Methods for increasing the bioavailability of pharmaceutical agents by **conjugation** to phospholipidis are disclosed. Also disclosed are phospholipid-derivatized steroids, peptides, antibiotics and other biol. active agents and pharmaceutical formulations comprising these compds. E.g., a phosphocholine derivative of testosterone was prepared and bioactivity of this compound and other steroid derivs. were determined

ST phosphocholine drug deriv bioavailability; steroid phosphocholine deriv

IT Drug bioavailability
(phospholipid drug derivs. with increased bioavailability)

IT Catecholamines, biological studies
Leukotrienes
Peptides, biological studies
Phospholipids, biological studies
Prostaglandins
Solubilization
Steroids, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(phospholipid drug derivs. with increased bioavailability)

IT 179126-28-4P 179126-29-5P 179126-32-0P
RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)
(phospholipid drug derivs. with increased bioavailability)

IT 50-28-2, Estradiol, reactions 53-42-9, Etiocholanolone **53-43-0**, Dehydroepiandrosterone 58-22-0, Testosterone 107-73-3, Phosphocholine 6609-64-9, 2-Chloro-1,3,2-dioxaphospholane 2-oxide 179126-31-9
RL: RCT (Reactant); RACT (Reactant or reagent)
(phospholipid drug derivs. with increased bioavailability)

IT 205594-92-9P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(phospholipid drug derivs. with increased bioavailability)

IT **50-14-6**, Vitamin D2 50-78-2, Aspirin 51-43-4, Epinephrine 52-28-8, Codeine phosphate 53-16-7, Estrone, biological studies 66-28-4, Strophanthidine **67-97-0**, Vitamin D3 69-72-7, Salicylic acid, biological studies 76-57-3, Codeine 78-11-5, Pentaerythritol tetranitrate 79-80-1, Vitamin A2 89-57-6, Mesalamine 94-35-9, Styramate 103-90-2, Acetaminophen 119-13-1, δ-Tocopherol 143-62-4, Digitoxigenin 148-03-8, β-Tocopherol 302-79-4, Retinoic acid 443-48-1, Metronidazole 481-85-6, Menadiol

508-52-1, Ouabagenin 525-66-6, Propranolol 555-30-6, Methyldopa
1406-18-4, Vitamin E 1672-46-4, Digoxigenin 6990-06-3, Fusidic acid
7616-22-0, γ-Tocopherol 7683-59-2, Isoproterenol 11103-57-4,
Vitamin a 13258-72-5, Cephalosporin P1 18323-44-9, Clindamycin
22232-71-9, Mazindol 22494-42-4, Diflunisal 29400-42-8, Helvolic acid
32222-06-3, Calcitriol 58001-44-8 112192-04-8, Roxindole
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(phospholipid drug derivs. with increased bioavailability)

RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

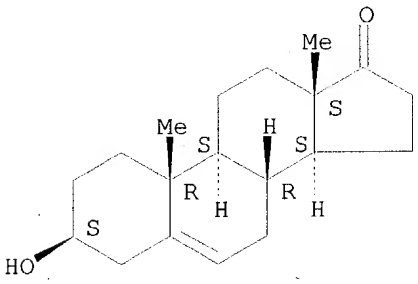
(1) Hostetler; US 5194654 A 1993 HCAPLUS
(2) Hostetler; US 5411947 A 1995 HCAPLUS
(3) Hostetler; US 5484809 A 1996 HCAPLUS
(4) Pettit; US 5529989 A 1996 HCAPLUS

IT **53-43-0**, Dehydroepiandrosterone
RL: RCT (Reactant); RACT (Reactant or reagent)
(phospholipid drug derivs. with increased bioavailability)

RN 53-43-0 HCAPLUS

CN Androst-5-en-17-one, 3-hydroxy-, (3β)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).

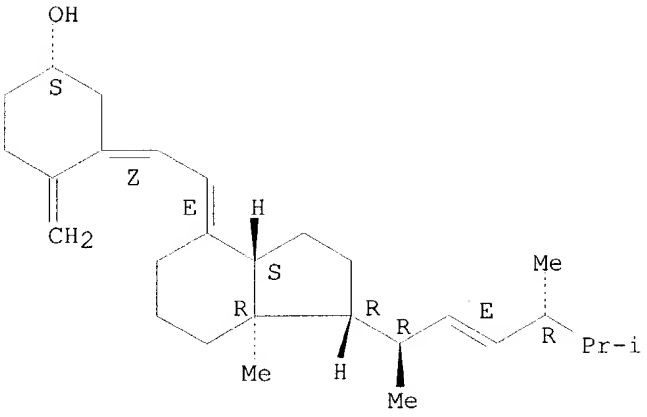


IT **50-14-6**, Vitamin D2 **67-97-0**, Vitamin D3
32222-06-3, Calcitriol
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(phospholipid drug derivs. with increased bioavailability)

RN 50-14-6 HCAPLUS

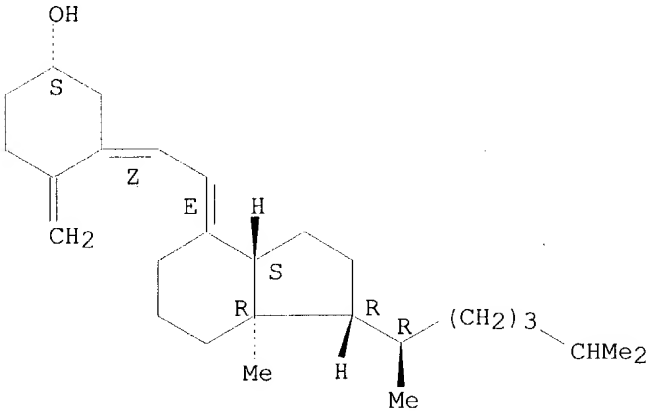
CN 9,10-Secoergosta-5,7,10(19),22-tetraen-3-ol, (3β,5Z,7E,22E)- (9CI)
(CA INDEX NAME)

Absolute stereochemistry. Rotation (+).
Double bond geometry as shown.



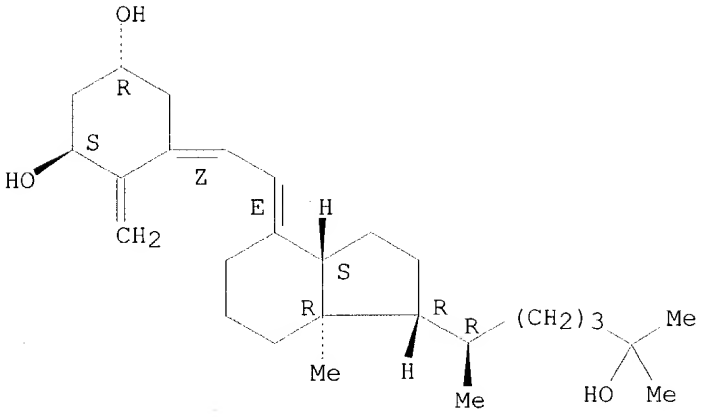
RN 67-97-0 HCAPLUS
CN 9,10-Secocholesta-5,7,10(19)-trien-3-ol, (3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



RN 32222-06-3 HCAPLUS
CN 9,10-Secocholesta-5,7,10(19)-triene-1,3,25-triol, (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).
Double bond geometry as shown.



L68 ANSWER 10 OF 23 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1997:748257 HCAPLUS
DN 128:57535
ED Entered STN: 28 Nov 1997
TI Comparison of the long-term effects of oral estriol with the effects of **conjugated** estrogen, 1α-hydroxyvitamin D3 and calcium lactate on vertebral bone loss in early menopausal women
AU Itoi, Hideo; Minakami, Hisanori; Sato, Ikuo
CS Department of Obstetrics and Gynecology, Jichi Medical School, Tochigi, 329-04, Japan
SO Maturitas (**1997**), 28(1), 11-17
CODEN: MATUDK; ISSN: 0378-5122
PB Elsevier
DT Journal
LA English
CC 2-4 (Mammalian Hormones)
Section cross-reference(s): 1
AB The long-term effects of oral estriol (E3) on bone mineral d. (BMD) at the lumbar spine and biochem. indexes of bone turnover were investigated in early menopausal women. Healthy early menopausal women were treated for 24 mo with 2.0 mg E3 plus 2.5 mg medroxyprogesterone acetate daily (E3 group), 0.625 mg of **conjugated** estrogen plus 2.5 mg medroxyprogesterone acetate daily (CE group), 1.0 μg 1α-hydroxyvitamin D3 daily (D3 group), or 1.8 g Ca lactate (containing 250 mg elemental Ca) daily (Ca group). The BMD at the 3rd lumbar vertebra was determined by quant. computed tomog., and serum levels of osteocalcin (OC) and total alkaline phosphatase (Alp), as well as urinary ratios of Ca-to-creatinine (Ca/Cr) and hydroxyproline-to-creatinine (Hyp/Cr), were evaluated every 6 mo. After 24 mo of treatment, the BMD had decreased significantly by 12% in the D3 group and 14% in the Ca group, but not in the E3 group or in the CE group (-0.9 ± 3.2% from baseline). The serum levels of Alp and OC decreased or remained unchanged in the E3 and CE groups, but increased in the D3 and Ca groups. The urinary Ca/Cr was decreased in the E3 and CE groups, but not in the D3 and Ca groups. The urinary Hyp/Cr decreased in the CE group, was unchanged in the E3 and D3 groups, and increased in the Ca group. Uterine bleeding occurred less frequently in the E3 than in the CE group. The bone-preserving effect of 2.0 mg oral E3 was comparable to that of 0.625 mg **conjugated** estrogen and was superior to that of 1.0 μg 1α-hydroxyvitamin D3 and 1.8 g Ca. The findings suggest that a reduction in bone turnover in the

E3 group may have contributed to the preservation of bone.

ST bone loss menopause estriol hydroxyvitamin D3; calcium lactate bone loss menopause; estrogen replacement therapy bone loss menopause

IT **Estrogens**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(**conjugated**; vertebral bone loss in early menopausal women prevention by)

IT Bone
Menopause
(estriol, **conjugated** estrogen, hydroxyvitamin D3 and calcium lactate prevention of vertebral bone loss in early menopausal women)

IT Osteocalcins
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(estriol, **conjugated** estrogen, hydroxyvitamin D3 and calcium lactate prevention of vertebral bone loss in early menopausal women in relation to serum)

IT Spinal column
(vertebra; estriol, **conjugated** estrogen, hydroxyvitamin D3 and calcium lactate prevention of vertebral bone loss in early menopausal women)

IT Hormone replacement therapy
(vertebral bone loss in early menopausal women prevention by)

IT 51-35-4, Hydroxyproline 7440-70-2, Calcium, biological studies 9001-78-9
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(estriol, **conjugated** estrogen, hydroxyvitamin D3 and calcium lactate prevention of vertebral bone loss in early menopausal women in relation to serum)

IT 50-27-1, Estriol 814-80-2, Calcium lactate **41294-56-8**, 1α-Hydroxyvitamin D3
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(vertebral bone loss in early menopausal women prevention by)

IT 71-58-9, Medroxyprogesterone acetate
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(vertebral bone loss in early menopausal women prevention by estrogen plus)

RE.CNT 30 THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

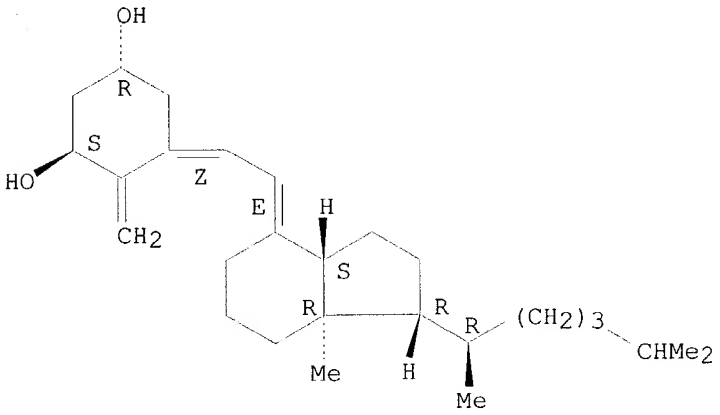
(1) Barzel, U; Am J Med 1988, V85, P847 MEDLINE
(2) Bergman, I; Clin Chim Acta 1970, V27, P347 HCAPLUS
(3) Chen, T; Endocrinology 1977, V100, P619 HCAPLUS
(4) Cheng, G; Chin Med J 1992, V105, P929 MEDLINE
(5) Doren, M; Am J Obstet Gynecol 1995, V173, P1446 MEDLINE
(6) Elders, P; J Clin Endocrinol Metab 1991, V73, P533 MEDLINE
(7) Ettinger, B; Ann Intern Med 1985, V102, P319 MEDLINE
(8) Genant, H; Am J Med 1991, V91(Suppl 5B), P49s
(9) Genant, H; Ann Intern Med 1982, V97, P699 MEDLINE
(10) Genant, H; Orthop Clin North Am 1985, V16, P557 MEDLINE
(11) Hahn, R; Am J Obstet Gynecol 1989, V161, P1854 MEDLINE
(12) Heaney, R; J Lab Clin Med 1978, V92, P964 MEDLINE
(13) Heuser, H; Arzneim Forsch 1973, V23, P558 MEDLINE

(14) Johansen, J; Eur J Clin Invest 1988, V18, P191 MEDLINE
(15) Melis, G; Maturitas 1996, V24, P83 HCAPLUS
(16) Menczel, J; Clin Orthop Relat Res 1994, V300, P241
(17) Minaguchi, H; J Obstet Gynaecol Res 1996, V22, P259 MEDLINE
(18) Nielsen, H; J Clin Endocrinol Metab 1990, V70, P1431 HCAPLUS
(19) Nishibe, A; Nippon Ronen Igakkai Zasshi 1996, V33, P353 MEDLINE
(20) Nozaki, M; Nippon Sanka Fujinka Gakkai Zasshi 1996, V48, P83 HCAPLUS
(21) Orimo, H; Calcif Tissue Int 1994, V54, P370 MEDLINE
(22) Pacifici, R; J Clin Endocrinol Metab 1987, V64, P209 MEDLINE
(23) Pacifici, R; J Clin Endocrinol Metab 1990, V70, P705 MEDLINE
(24) Raz, R; N Engl J Med 1993, V329, P753 MEDLINE
(25) Reid, I; N Engl J Med 1993, V328, P460 HCAPLUS
(26) Riis, B; Am J Med 1991, V91(Suppl 5B), P64s
(27) Riis, B; Maturitas 1988, V10, P51 MEDLINE
(28) Stepan, J; Bone 1987, V8, P279 MEDLINE
(29) The Writing Group For The Pepi Trial; J Am Med Assoc 1996, V275, P370
(30) Tzingounis, V; J Am Med Assoc 1978, V239, P1638 MEDLINE

IT **41294-56-8**, 1α-Hydroxyvitamin D3
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(vertebral bone loss in early menopausal women prevention by)

RN 41294-56-8 HCAPLUS
CN 9,10-Secocholesta-5,7,10(19)-triene-1,3-diol, (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).
Double bond geometry as shown.



L68 ANSWER 11 OF 23 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1997:148845 HCAPLUS
DN 126:154819
ED Entered STN: 07 Mar 1997
TI Calibrator for use in a soluble fibrin assay
IN Dimitrijevic, Nikola; Dimitrijevic, Nada
PA American Biogenetic Sciences, Inc., USA
SO PCT Int. Appl., 120 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM C12Q001-56

ICS G01N033-53
CC 9-10 (Biochemical Methods)
Section cross-reference(s): 14, 15
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9640986	A1	19961219	WO 1996-US7891	19960429 <--
	W: AU, BR, CA, CN, CZ, HU, JP, KR, NO, NZ, PL, RU, SG, SK				
	RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	AU 9660254	A1	19961230	AU 1996-60254	19960429 <--
PRAI	US 1995-486420		19950607 <--		
	WO 1996-US7891		19960429 <--		

AB The invention provides a method for the production of fibrin-specific monoclonal antibodies using germ-free mice as well as an immunoassay and kit containing such monoclonal antibodies for the detection of soluble fibrin polymers in blood plasma for use in diagnosis and therapy. The invention also provides a calibrator for use in an in vitro soluble fibrin assay wherein the calibrator composition is lyophilized and comprises a known amount of soluble crosslinked and soluble non-crosslinked DesAABB fibrin polymers, a stabilizing agent, and an aqueous buffer.

ST sol fibrin detn lyophilized calibrator DesAABB; germ free mouse monoclonal antibody prodn; vascular disease diagnosis fibrin specific antibody; thrombosis diagnosis fibrin specific antibody; plasma sol fibrin detn ELISA calibrator; heart infarction diagnosis fibrin polymer detection

IT Fibrins
RL: ANT (Analyte); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(II; monoclonal antibodies and lyophilized calibrator for soluble fibrin determination)

IT Feed
(germ-free mouse; monoclonal antibodies and lyophilized calibrator for soluble fibrin determination)

IT Mouse
(germ-free; monoclonal antibodies and lyophilized calibrator for soluble fibrin determination)

IT Heart, disease
(infarction; monoclonal antibodies and lyophilized calibrator for soluble fibrin determination)

IT Blood analysis
Blood vessel, disease
Hybridoma
Mammal (Mammalia)
Protein sequences
Therapy
Thrombosis
Thrombus
cDNA sequences
(monoclonal antibodies and lyophilized calibrator for soluble fibrin determination)

IT Carbohydrates, analysis
RL: ARU (Analytical role, unclassified); ANST (Analytical study)
(monoclonal antibodies and lyophilized calibrator for soluble fibrin determination)

IT Glycerides, biological studies
RL: FFD (Food or feed use); BIOL (Biological study); USES (Uses)
(monoclonal antibodies and lyophilized calibrator for soluble fibrin determination)

IT Antibodies

RL: ARG (Analytical reagent use); BPN (Biosynthetic preparation); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(monoclonal; monoclonal antibodies and lyophilized calibrator for soluble fibrin determination)

IT Antibodies
RL: ARG (Analytical reagent use); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)
(peroxidase **conjugates**; monoclonal antibodies and lyophilized calibrator for soluble fibrin determination)

IT Alcohols, analysis
RL: ARU (Analytical role, unclassified); ANST (Analytical study)
(polyhydric; monoclonal antibodies and lyophilized calibrator for soluble fibrin determination)

IT 186779-51-1 186779-53-3
RL: PRP (Properties)
(amino acid sequence; monoclonal antibodies and lyophilized calibrator for soluble fibrin determination)

IT 9003-99-0DP, Peroxidase, antibody **conjugates**
RL: ARG (Analytical reagent use); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)
(monoclonal antibodies and lyophilized calibrator for soluble fibrin determination)

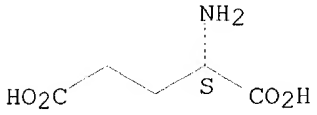
IT 57-50-1, Sucrose, analysis 69-65-8, Mannitol 99-20-7, Trehalose
RL: ARU (Analytical role, unclassified); ANST (Analytical study)
(monoclonal antibodies and lyophilized calibrator for soluble fibrin determination)

IT 50-99-7, D-Glucose, biological studies 56-40-6, Glycine, biological studies 56-41-7, Alanine, biological studies 56-45-1, L-Serine, biological studies **56-86-0**, Glutamic acid, biological studies 56-87-1, Lysine, biological studies 58-85-5, Biotin 59-30-3, Folic acid, biological studies 59-43-8, Thiamine, biological studies 61-90-5, Leucine, biological studies 63-68-3, Methionine, biological studies 63-91-2, Phenylalanine, biological studies 65-23-6, Pyridoxine 67-48-1, Choline chloride **67-97-0**, Cholecalciferol 68-19-9, Vitamin B12 70-47-3, Asparagine, biological studies 71-00-1, Histidine, biological studies 71-48-7, Cobalt acetate 72-18-4, Valine, biological studies 72-19-5, Threonine, biological studies 73-22-3, Tryptophan, biological studies 73-32-5, Isoleucine, biological studies 74-79-3, Arginine, biological studies 79-81-2, Retinyl palmitate 83-88-5, Riboflavin, biological studies 84-80-0, Phylloquinone 87-89-8, myo-Inositol 98-92-0, Niacinamide 127-08-2, Potassium acetate 137-08-6, Calcium pantothenate 142-71-2, Copper acetate 147-85-3, Proline, biological studies 299-29-6, Ferrous gluconate 638-38-0, Manganese acetate 927-20-8, Magnesium glycerophosphate 949-67-7, L-Tyrosine ethyl ester 1066-30-4, Chromium acetate 7647-14-5, Sodium chloride (NaCl), biological studies 7681-11-0, Potassium iodide, biological studies 7681-49-4, Sodium fluoride, biological studies 7718-54-9, Nickel chloride, biological studies 7733-02-0, Zinc sulfate 10031-62-6, Tin sulfate 10043-52-4, Calcium chloride, biological studies 10102-18-8 12027-67-7, Ammonium molybdate 13721-39-6, Sodium vanadate 27214-00-2, Calcium glycerophosphate 186537-56-4 186537-57-5
RL: FFD (Food or feed use); BIOL (Biological study); USES (Uses)
(monoclonal antibodies and lyophilized calibrator for soluble fibrin determination)

IT 186779-50-0 186779-52-2
RL: PRP (Properties)
(nucleotide sequence; monoclonal antibodies and lyophilized calibrator for soluble fibrin determination)

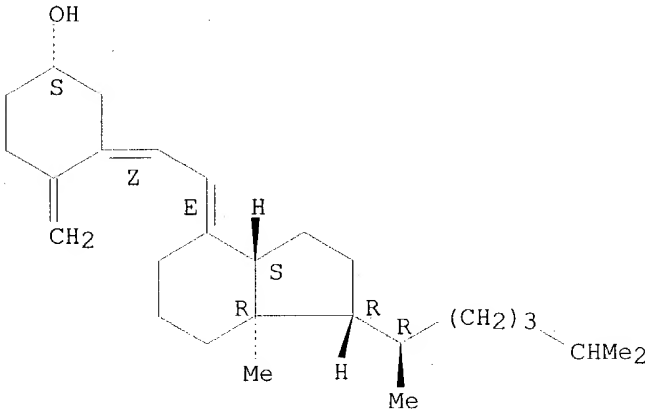
IT **56-86-0**, Glutamic acid, biological studies **67-97-0**, Cholecalciferol
RL: FFD (Food or feed use); BIOL (Biological study); USES (Uses)
(monoclonal antibodies and lyophilized calibrator for soluble fibrin determination)
RN 56-86-0 HCAPLUS
CN L-Glutamic acid (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 67-97-0 HCAPLUS
CN 9,10-Secocholesta-5,7,10(19)-trien-3-ol, (3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



L68 ANSWER 12 OF 23 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1997:128093 HCAPLUS
DN 126:148535
ED Entered STN: 26 Feb 1997
TI Method for treating and preventing secondary hyperparathyroidism
IN Knutson, Joyce C.; **Bishop, Charles W.; Mazess, Richard B.**
PA **Bone Care International, Inc., USA**
SO U.S., 8 pp., Cont.-in-part of U.S. 5, 403, 831.
CODEN: USXXAM
DT Patent
LA English
IC ICM A61K031-59
NCL 514167000
CC 63-6 (Pharmaceuticals)
FAN.CNT 20

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

PI	US 5602116	A	19970211	US 1995-415488	19950403	<--
	US 5104864	A	19920414	US 1990-569412	19900817	<--
	US 5403831	A	19950404	US 1993-119895	19930910	<--
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	RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE					
	AU 9653840	A1	19961023	AU 1996-53840	19960403	<--
	AU 719773	B2	20000518			
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	EP 820290	B1	20030723			
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	CN 1185109	A	19980617	CN 1996-194098	19960403	<--
	JP 11503164	T2	19990323	JP 1996-530446	19960403	<--
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	US 5763429	A	19980609	US 1996-781910	19961230	<--
	US 5707980	A	19980113	US 1997-798958	19970211	<--
	US 5861386	A	19990119	US 1997-907658	19970808	<--
	US 5869473	A	19990209	US 1997-907659	19970808	<--
	NO 9704480	A	19971114	NO 1997-4480	19970929	<--
	FI 9703868	A	19971002	FI 1997-3868	19971002	<--
	US 6537982	B1	20030325	US 1998-596149	19980223	<--
	US 6376479	B1	20020423	US 2000-501093	20000209	<--
	US 2002183288	A1	20021205	US 2002-127005	20020419	<--
	US 2004043971	A1	20040304	US 2003-385327	20030310	<--
	US 2004023934	A1	20040205	US 2003-397136	20030325	<--
PRAI	US 1988-227371	B1	19880802	<--		
	US 1990-569412	A1	19900817	<--		
	US 1992-812056	B1	19920305	<--		
	US 1993-119895	A2	19930910	<--		
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	US 1994-265438	A2	19940624	<--		
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	US 1995-486387	A2	19950607	<--		
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	US 1996-781910	A3	19961230	<--		
	US 1997-798958	A1	19970211	<--		
	US 1997-907659	A2	19970808			
	US 1997-907660	B2	19970808			
	US 1998-596149	A1	19980223			
	US 1998-86969	A2	19980529			
	US 2000-501093	A2	20000209			
	US 2002-127005	A2	20020419			

AB A method for preventing loss of bone mass or bone mineral content in a human being suffering from secondary hyperparathyroidism by administering a sufficient amount of 1α-OH vitamin D2, 1α,24(S)-(OH)2 vitamin D2, 1α-OH vitamin D4 or 1α,24(R)-(OH)2 vitamin D4 was reported.

ST vitamin D prevention therapy secondary hyperparathyroidism

IT **Estrogens**
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(**conjugated**; vitamin D formulations for treating and preventing secondary hyperparathyroidism)

IT **Toxins**
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(**pertussis**; vitamin D formulations for treating and

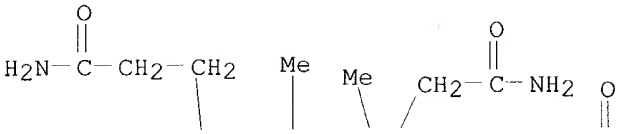
preventing secondary hyperparathyroidism)
IT Hyperparathyroidism
(secondary; vitamin D formulations for treating and preventing secondary hyperparathyroidism)
IT Osteoporosis
(treatment of; vitamin D formulations for treating and preventing secondary hyperparathyroidism)
IT Drug delivery systems
Kidney, disease
(vitamin D formulations for treating and preventing secondary hyperparathyroidism)
IT **7440-42-8**, Boron, biological studies 7440-70-2, Calcium, biological studies 7681-49-4, Sodium fluoride, biological studies **9007-12-9**, Calcitonin **13408-78-1**, Cobalamin 36465-90-4D, Diphosphonic acid, derivs. **54573-75-0**, 1α-Hydroxy vitamin d2 **143032-85-3**, 1α-Hydroxy vitamin d4 **156316-85-7** **157893-62-4**
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(vitamin D formulations for treating and preventing secondary hyperparathyroidism)
IT **7440-42-8**, Boron, biological studies **9007-12-9**, Calcitonin **13408-78-1**, Cobalamin **54573-75-0**, 1α-Hydroxy vitamin d2 **143032-85-3**, 1α-Hydroxy vitamin d4 **156316-85-7** **157893-62-4**
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(vitamin D formulations for treating and preventing secondary hyperparathyroidism)
RN 7440-42-8 HCAPLUS
CN Boron (8CI, 9CI) (CA INDEX NAME)

B

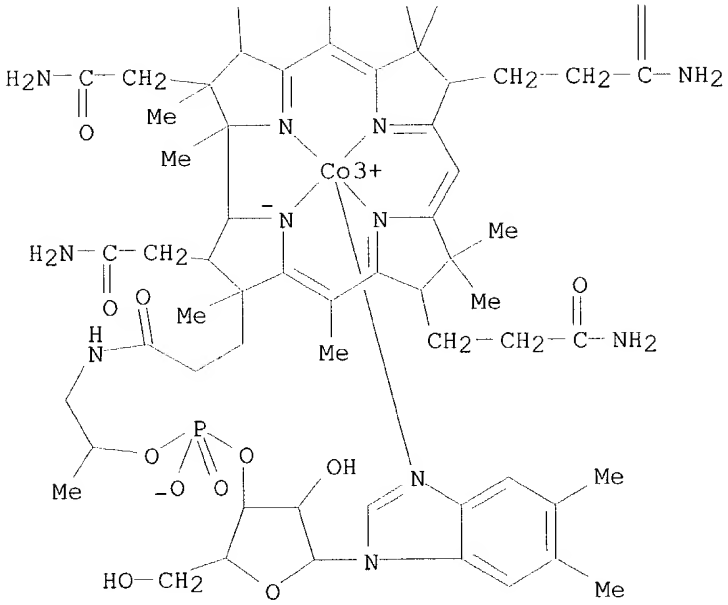
RN 9007-12-9 HCAPLUS
CN Calcitonin (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 13408-78-1 HCAPLUS
CN Cobinamide, dihydrogen phosphate (ester), inner salt, 3'-ester with (5,6-dimethyl-1-α-D-ribofuranosyl-1H-benzimidazole-κN3), ion(1+) (9CI) (CA INDEX NAME)

PAGE 1-A

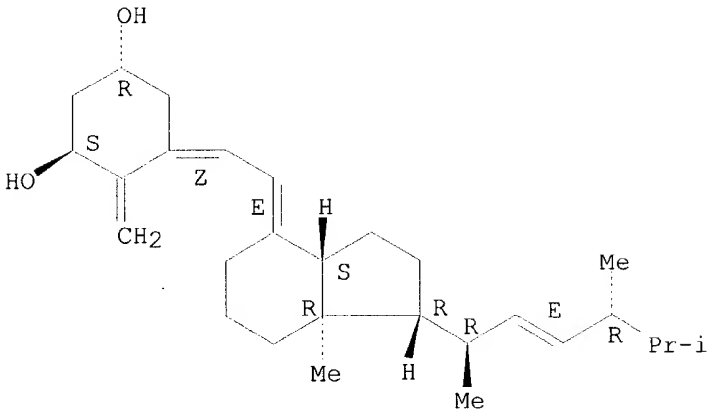


PAGE 2-A



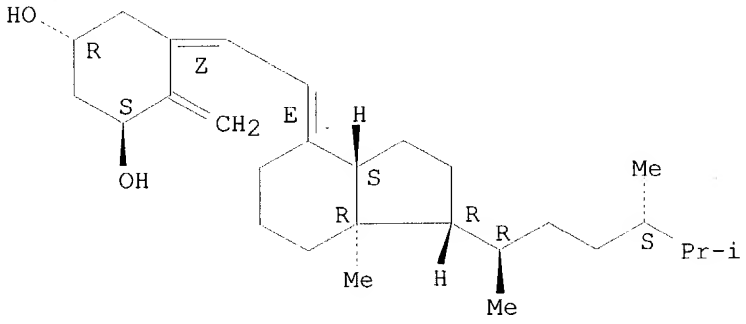
RN 54573-75-0 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19),22-tetraene-1,3-diol, (1α,3β,5Z,7E,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



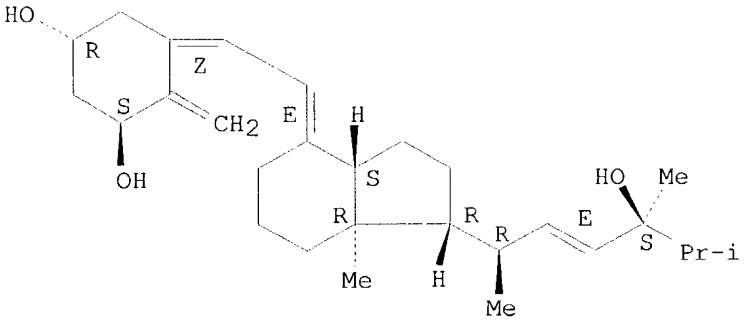
RN 143032-85-3 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19)-triene-1,3-diol, (1α,3β,5Z,7E)-
(9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



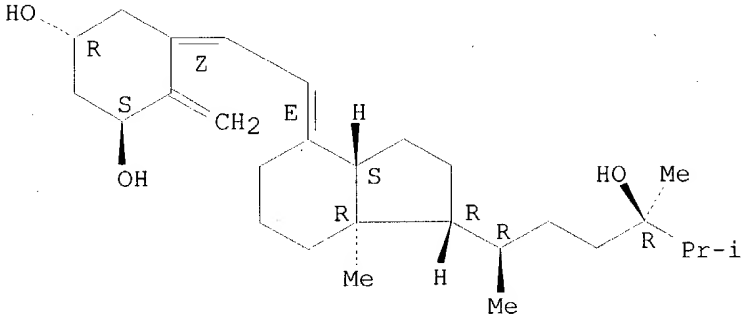
RN 156316-85-7 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19),22-tetraene-1,3,24-triol,
(1α,3β,5Z,7E,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



RN 157893-62-4 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19)-triene-1,3,24-triol, (1α,3β,5Z,7E)-(9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



L68 ANSWER 13 OF 23 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1996:710533 HCAPLUS
DN 125:317372
ED Entered STN: 04 Dec 1996
TI Use of vitamin D2 or vitamin D4 derivatives for the treatment of secondary hyperparathyroidism
IN Knutson, Joyce C.; **Mazess, Richard B.; Bishop, Charles W.**
PA **Bone Care International, Inc., USA**
SO PCT Int. Appl., 30 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM A61K031-59
CC 1-10 (Pharmacology)
Section cross-reference(s): 63
FAN.CNT 20

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 9631215	A1	19961010	WO 1996-US4553	19960403 <--

W: AU, BR, CA, CN, FI, HU, JP, KR, MX, NO, NZ, PL, SG
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE

	US 5602116	A	19970211	US 1995-415488	19950403 <--
	AU 9653840	A1	19961023	AU 1996-53840	19960403 <--
	AU 719773	B2	20000518		
	EP 820290	A1	19980128	EP 1996-910720	19960403 <--
	EP 820290	B1	20030723		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, NL, SE, PT, IE, FI				
	BR 9604940	A	19980609	BR 1996-4940	19960403 <--
	JP 11503164	T2	19990323	JP 1996-530446	19960403 <--
	JP 3529790	B2	20040524		
	NZ 316662	A	20010427	NZ 1996-316662	19960403 <--
	NO 9704480	A	19971114	NO 1997-4480	19970929 <--
	FI 9703868	A	19971002	FI 1997-3868	19971002 <--
PRAI	US 1995-415488	A	19950403 <--		
	US 1988-227371	B1	19880802 <--		
	US 1990-569412	A1	19900817 <--		
	US 1992-812056	B1	19920305 <--		
	US 1993-119895	A2	19930910 <--		
	WO 1996-US4553	W	19960403 <--		

AB A method for preventing loss of bone mass or bone mineral content in a human being suffering from secondary hyperparathyroidism comprises administering a sufficient amount of 1α-OH vitamin D2, 1α,24(S)-(OH)2 vitamin D2, 1α-OH vitamin D4, or 1α,24(R)-(OH)2 vitamin D4. Treatment of patients undergoing chronic hemodialysis with two consecutive 12 wk courses of therapy with 4 μg/day 1α-OH vitamin D2 decreased the serum parathyroid hormone level to 50% of the pretreatment level.

ST vitamin deriv secondary hyperparathyroidism treatment

IT Hyperparathyroidism
Kidney, disease
(use of vitamin D2 or vitamin D4 derivs. for treatment of secondary hyperparathyroidism)

IT Pharmaceutical dosage forms
(capsules, use of vitamin D2 or vitamin D4 derivs. for treatment of secondary hyperparathyroidism)

IT **Estrogens**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(**conjugates**, use of vitamin D2 or vitamin D4 derivs. for treatment of secondary hyperparathyroidism)

IT Bone, disease
(demineralization, use of vitamin D2 or vitamin D4 derivs. for treatment of secondary hyperparathyroidism)

IT Pharmaceutical dosage forms
(injections, i.m., use of vitamin D2 or vitamin D4 derivs. for treatment of secondary hyperparathyroidism)

IT Pharmaceutical dosage forms
(injections, i.v., use of vitamin D2 or vitamin D4 derivs. for treatment of secondary hyperparathyroidism)

IT Pharmaceutical dosage forms
(injections, s.c., use of vitamin D2 or vitamin D4 derivs. for treatment of secondary hyperparathyroidism)

IT Pharmaceutical dosage forms
(parenterals, use of vitamin D2 or vitamin D4 derivs. for treatment of secondary hyperparathyroidism)

IT Pharmaceutical dosage forms
(transdermal, use of vitamin D2 or vitamin D4 derivs. for treatment of secondary hyperparathyroidism)

IT 59299-62-6, Pertussin

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(toxins; use of vitamin D2 or vitamin D4 derivs. for treatment of secondary hyperparathyroidism)

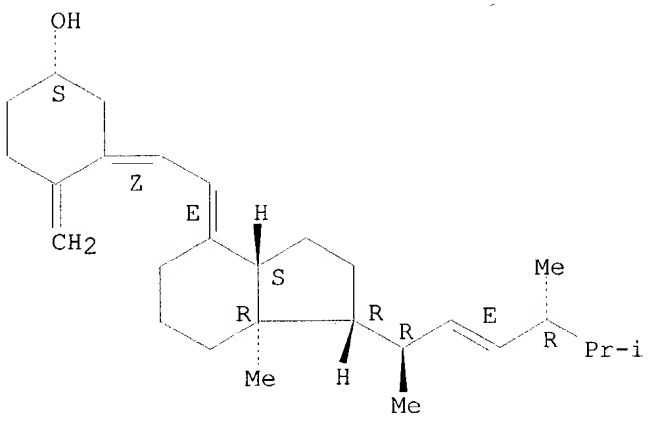
IT **50-14-6**, Vitamin D2 **7440-42-8**, Boron, biological studies
7681-49-4, Sodium fluoride, biological studies **13408-78-1**, Cobalamin 13598-36-2D, Phosphonic acid, alkylidenebis- derivs. **54573-75-0**, 1α-Hydroxy vitamin D2 **143032-85-3**, 1α-Hydroxy vitamin D4 **156316-85-7 157893-62-4**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(use of vitamin D2 or vitamin D4 derivs. for treatment of secondary hyperparathyroidism)

IT 1406-16-2, Vitamin D 9002-64-6, Parathyroid hormone
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(use of vitamin D2 or vitamin D4 derivs. for treatment of secondary hyperparathyroidism)

IT **50-14-6**, Vitamin D2 **7440-42-8**, Boron, biological studies **13408-78-1**, Cobalamin **54573-75-0**, 1α-Hydroxy vitamin D2 **143032-85-3**, 1α-Hydroxy vitamin D4 **156316-85-7 157893-62-4**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(use of vitamin D2 or vitamin D4 derivs. for treatment of secondary hyperparathyroidism)

RN 50-14-6 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19),22-tetraen-3-ol, (3β,5Z,7E,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).
Double bond geometry as shown.

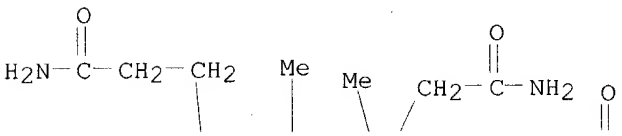


RN 7440-42-8 HCAPLUS
CN Boron (8CI, 9CI) (CA INDEX NAME)

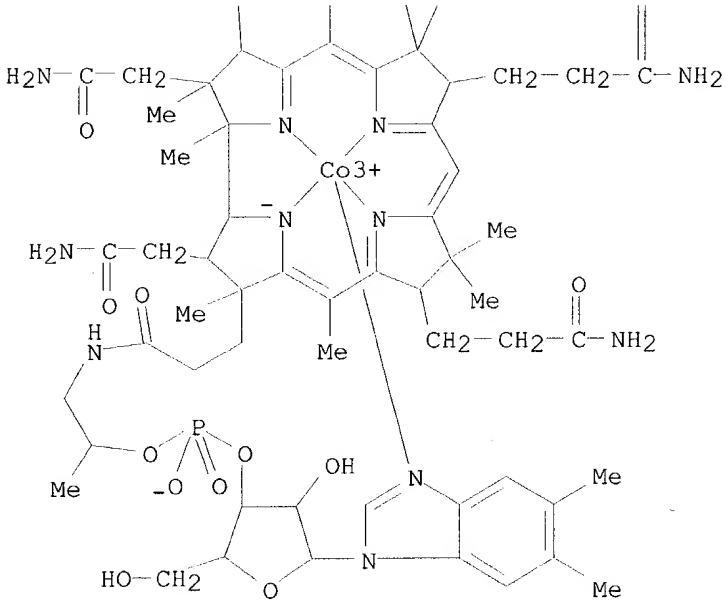
B

RN 13408-78-1 HCAPLUS
CN Cobinamide, dihydrogen phosphate (ester), inner salt, 3'-ester with (5,6-dimethyl-1-α-D-ribofuranosyl-1H-benzimidazole-κN3), ion(1+) (9CI) (CA INDEX NAME)

PAGE 1-A

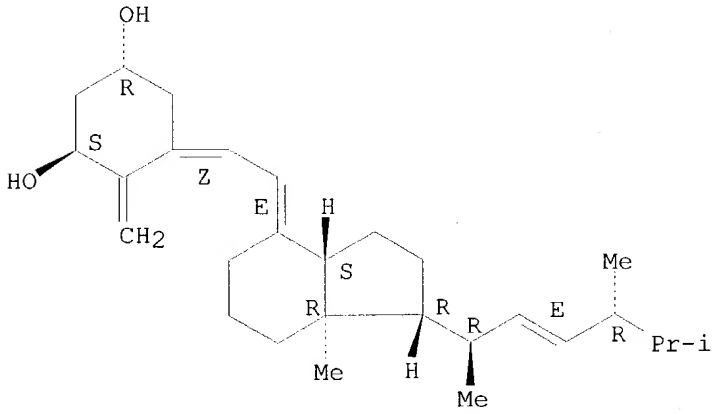


PAGE 2-A



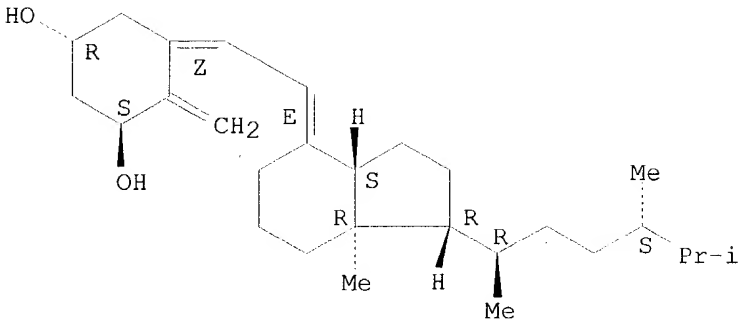
RN 54573-75-0 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19),22-tetraene-1,3-diol, (1α,3β,5Z,7E,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



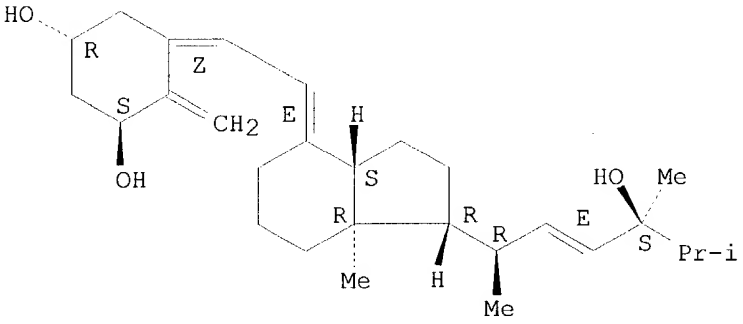
RN 143032-85-3 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19)-triene-1,3-diol, (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



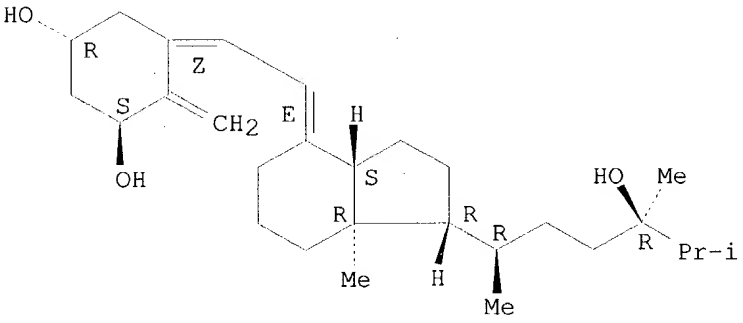
RN 156316-85-7 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19),22-tetraene-1,3,24-triol, (1α,3β,5Z,7E,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



RN 157893-62-4 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19)-triene-1,3,24-triol, (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



L68 ANSWER 14 OF 23 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1996:599767 HCAPLUS
DN 125:293365
ED Entered STN: 09 Oct 1996
TI Differential effects of dietary calcium augmentation and hormone replacement therapy on bone turnover and serum levels of calciotropic hormones
AU Aloia, J. F.; Vaswani, A.; Yeh, J. K.; Russo, L.
CS Department Medicine, Winthrop-University Hospital, Mineola, NY, 11501, USA
SO Osteoporosis International (**1996**), 6(1), 55-62
CODEN: OSINEP; ISSN: 0937-941X
PB Springer
DT Journal
LA English
CC 2-4 (Mammalian Hormones)
AB The mechanism of action of retardation of postmenopausal bone loss may be different for dietary calcium augmentation and hormonal replacement therapy (HRT). We performed a three-arm, placebo-controlled, randomized clin. trial comparing an intake of calcium of 1700 mg with: (1) calcium augmentation with HRT and (2) placebo. One hundred and eighteen women entered the study; 17 patients dropped out of the study. The vast majority of women were less than 2 yr postmenopause. Bone mineral d. declined significantly in the placebo group. The previously reported rates of change in the HRT group were significantly pos. for total body calcium and the trochanter and not significantly different from zero for the others. The rate of change in the calcium augmentation group was intermediate between that in the two other groups, and achieved statistical significance compared with placebo for the total body calcium measurement and for the neck of the femur. Measurements were made prior to treatment and at the end of the study (2.9 yr) for parameters of bone turnover and the calciotropic hormones, to examine whether the mechanism of action was different for calcium augmentation vs. hormonal therapy. There were no changes in the placebo group. The calcium augmentation group had a significant increase in 24-h urinary calcium and declining values for urinary collagen cross-links (pyridinium and deoxypyridinium), urinary hydroxyproline and calcitriol. The group treated with HRT and dietary calcium augmentation also had an increase in urinary calcium and a decline in collagen cross-links and urinary hydroxyproline and skeletal alkaline phosphatase; serum calcitriol did not change. The HRT group also displayed a drop in serum osteocalcin, and an increase in nephrogenous cAMP. Serum parathyroid hormone remained unchanged in all groups. Dietary calcium augmentation retards postmenopausal bone loss by decreasing resorption. The addition of HRT results in a more marked decline in bone resorption parameters and a suppression of parameters of bone formation. Whereas calcium augmentation suppressed calcitriol levels, the addition of HRT resulted in maintenance of calcitriol levels, possibly through enhancement of the renal effects of parathyroid hormone, although other mechanisms are possible.
ST calcium hormone replacement bone turnover menopause
IT Blood serum
Bone
Kidney
Resorption
Urine
(dietary calcium augmentation and hormone replacement therapy differential effects on bone turnover and calciotropic hormone serum levels in postmenopausal women)
IT Collagens, biological studies
Osteocalcins
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL

(Biological study); PROC (Process)
(dietary calcium augmentation and hormone replacement therapy differential effects on bone turnover and calciotropic hormone serum levels in postmenopausal women)

IT **Estrogens**
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(**conjugates**, dietary calcium augmentation and hormone replacement therapy differential effects on bone turnover and calciotropic hormone serum levels in postmenopausal women)

IT Bone, disease
(demineralization, dietary calcium augmentation and hormone replacement therapy differential effects on bone turnover and calciotropic hormone serum levels in postmenopausal women)

IT Menopause
(post-, dietary calcium augmentation and hormone replacement therapy differential effects on bone turnover and calciotropic hormone serum levels in postmenopausal women)

IT 51-35-4, Hydroxyproline 60-92-4, CAMP 9001-78-9 9002-64-6, Parathormone **32222-06-3**, Calcitriol
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(dietary calcium augmentation and hormone replacement therapy differential effects on bone turnover and calciotropic hormone serum levels in postmenopausal women)

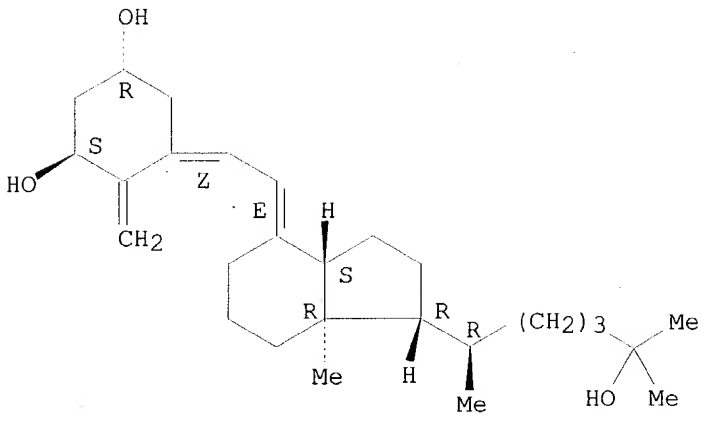
IT 7440-70-2, Calcium, biological studies
RL: FFD (Food or feed use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(dietary calcium augmentation and hormone replacement therapy differential effects on bone turnover and calciotropic hormone serum levels in postmenopausal women)

IT 520-85-4, Medroxyprogesterone
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(dietary calcium augmentation and hormone replacement therapy differential effects on bone turnover and calciotropic hormone serum levels in postmenopausal women)

IT **32222-06-3**, Calcitriol
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(dietary calcium augmentation and hormone replacement therapy differential effects on bone turnover and calciotropic hormone serum levels in postmenopausal women)

RN 32222-06-3 HCAPLUS
CN 9,10-Secocholesta-5,7,10(19)-triene-1,3,25-triol, (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).
Double bond geometry as shown.



L68 ANSWER 15 OF 23 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1996:165084 HCAPLUS
DN 124:277873
ED Entered STN: 21 Mar 1996
TI Glucuronidation of amines and hydroxylated xenobiotics and endobiotics catalyzed by expressed human UGT1.4 protein
AU Green, Mitchell D.; Tephly, Thomas R.
CS Dep. Pharmacol., Univ. Iowa, IA, USA
SO Drug Metabolism and Disposition (**1996**), 24(3), 356-63
CODEN: DMDSAI; ISSN: 0090-9556
PB Williams & Wilkins
DT Journal
LA English
CC 1-2 (Pharmacology)
Section cross-reference(s): 2, 4, 13
AB Glucuronide **conjugate** of tertiary amine xenobiotics represents a unique and important metabolic pathway for these compds. in humans. In this study, the authors show that human UDP-glucuronosyltransferase 1.4 protein, stably expressed in human embryonic kidney 293 cells, catalyzes the N-glucuronidation of primary, secondary and tertiary amine substrates. In addition, the substrate specificity of the expressed enzyme toward many hydroxylated and carboxylic acid-containing compds. was examined Of the hydroxylated compds. tested, only sapogenins gave glucuronidation rates comparable with those observed for amine substrates. The apparent KM and Vmax values for sapogenins were such that the efficiency of glucuronidation (Vmax/KM) for these compds. was higher than that determined for amine substrates. Human UDP-glucuronosyltransferase 1.4 also catalyzes the glucuronidation of monoterpenoid alcs. and simple phenolic compds. The enzyme kinetic values determined for these substrates suggested that this enzyme may have relatively limited significance for the **conjugation** of these classes of compds. Of the endobiotics tested, androstanediol and progestins were glucuronidated at high rates by expressed human UDP-glucuronosyltransferase 1.4 protein. The glucuronidation efficiency for 5α-pregnane-3β,20α-diol was comparable with that determined for the sapogenins. Because UDP-glucuronosyltransferases are integral membrane proteins, the effects of different detergents on the catalytic activity of the expressed enzyme were determined The results show that detergents (such as Lubrol PX, Emulgen 911, and Triton X-100) are inhibitory for the quaternary ammonium-linked glucuronidation of chlorpromazine and imipramine catalyzed by expressed

human UDP-glucuronosyltransferase 1.4. In contrast, CHAPS and nonanoyl-N-methylglucamide are less inhibitory toward the glucuronidation of these compds. The results suggest that human UDP-glucuronosyltransferase 1.4 may be an important enzyme for the detoxication of environmentally derived amines and sapogenins and for the **conjugation** of progestins.

ST glucuronidation amine hydroxylated xenobiotic endobiotic; UDP glucuronosyltransferase substrate amine xenobiotic endobiotic

IT Detergents
Drug biotransformation
Kinetics, enzymic
Michaelis constant
Xenobiotics
(glucuronidation of amines and hydroxylated xenobiotics and endobiotics catalyzed by expressed human UDP-glucuronosyltransferase 1.4 protein and its response to detergents)

IT Amines, biological studies
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(glucuronidation of amines and hydroxylated xenobiotics and endobiotics catalyzed by expressed human UDP-glucuronosyltransferase 1.4 protein and its response to detergents)

IT Glycosidation
(glucuronidation, glucuronidation of amines and hydroxylated xenobiotics and endobiotics catalyzed by expressed human UDP-glucuronosyltransferase 1.4 protein and its response to detergents)

IT 9030-08-4, UDP-glucuronosyltransferase
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(1.4 protein; glucuronidation of amines and hydroxylated xenobiotics and endobiotics catalyzed by expressed human UDP-glucuronosyltransferase 1.4 protein and its response to detergents)

IT 9002-92-0, Brij 35 9002-93-1, Triton X-100 9016-45-9, Emulgen 911 52434-01-2, Lubrol 75621-03-3, 3-[(3-Cholamidopropyl)dimethylammonio]-1-propanesulfonate 85261-19-4, Nonanoyl-N-methylglucamide
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(glucuronidation of amines and hydroxylated xenobiotics and endobiotics catalyzed by expressed human UDP-glucuronosyltransferase 1.4 protein and its response to detergents)

IT **50-14-6**, Vitamin D2 50-22-6, Corticosterone 50-27-1, Estriol 50-47-5, Desipramine 50-48-6, Amitriptyline 50-49-7, Imipramine 50-67-9, 5-HT, biological studies 51-48-9, t4, biological studies 51-61-6, Dopamine, biological studies 53-05-4, Tetrahydrocortisone 53-16-7, Estrone, biological studies 53-41-8, Androsterone 53-42-9, Etiocholanolone **53-43-0**, Dehydroepiandrosterone 56-75-7, Chloramphenicol 57-27-2, Morphine, biological studies 57-42-1, Meperidine 57-63-6, 17α-Ethynyl estradiol 57-91-0, 17α-Estradiol 58-22-0, Testosterone 58-73-1, Diphenhydramine 59-33-6 62-53-3, Benzenamine, biological studies 62-67-9, Nalorphine 63-01-4, 16α-Hydroxytestosterone **67-97-0**, Vitamin D3 68-26-8, all-trans-Retinol 68-96-2, 17α-Hydroxyprogesterone 69-23-8, Fluphenazine 72-14-0, Sulfathiazole 72-48-0, Alizarin 72-69-5, Nortriptyline 76-42-6, Oxycodone 76-57-3, Codeine 77-60-1, Tigogenin 78-70-6, (±)-Linalool 80-08-0 80-92-2 81-61-8, Quinalizarin 81-64-1, Quinizarin 84-60-6, Anthraflavic acid 86-21-5, Pheniramine 89-83-8, Thymol 90-15-3, 1-Naphthalenol 90-33-5, 4-Methylumbelliferone 90-41-5, 2-Aminobiphenyl 90-43-7, 2-Hydroxybiphenyl 91-85-0, Thonzylamine 92-61-5, Scopoletin 92-67-1,

4-Aminobiphenyl 92-69-3, [1,1'-Biphenyl]-4-ol 92-87-5, Benzidine
92-88-6, [1,1'-Biphenyl]-4,4'-diol 93-35-6, Umbelliferone 95-55-6,
2-Aminophenol 97-53-0, Eugenol 98-55-5, α-Terpineol 100-02-7,
biological studies 103-90-2, Acetaminophen 117-39-5, Quercetin
117-89-5, Trifluoperazine 121-69-7, N,N-Dimethyl aniline, biological
studies 122-11-2, Sulfadimethoxine 122-39-4, Diphenylamine, biological
studies 123-30-8 124-76-5, (±)-Isoborneol 135-19-3, 2-Naphthol,
biological studies 143-62-4, Digitoxigenin 143-74-8, Phenol red
145-13-1, Pregnenolone 146-54-3, Triflupromazine 153-78-6,
2-Aminofluorene 154-23-4, (+)-Catechin 302-79-4, all-trans-Retinoic
acid 305-01-1, Esculetin 331-39-5, Caffeic acid 362-05-0,
2-Hydroxyestradiol 362-06-1, 2-Hydroxyestrone 464-45-9, (-)-Borneol
465-65-6, Naloxone 467-55-0, Hecogenin 480-40-0, Chrysin 480-41-1,
Naringenin 481-29-8, Epiandrosterone 481-30-1, Epitestosterone
497-36-9, endo-Norborneol 497-37-0, (±)-exo-Norborneol 499-75-2,
Carvacrol 512-04-9, Diosgenin 516-53-0 518-82-1, Emodin 520-36-5,
Apigenin 520-88-7, 16α-Hydroxypregnenolone 521-18-6,
Dihydrotestosterone 528-48-3, Fisetin 547-81-9, 16-Epi estriol
548-83-4, Galangin 562-10-7 562-74-3, Terpinen-4-ol 566-58-5
566-76-7, 16α-Hydroxyestrone 571-20-0, 5α-Androstane-
3β,17β-diol 580-51-8, 3-Hydroxybiphenyl 635-65-4, Bilirubin,
biological studies 793-89-5, 16,17-Epi estriol 920-66-1 1076-38-6,
4-Hydroxycoumarin 1135-24-6, Ferulic acid 1158-94-7 1164-98-3,
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6α-Hydroxyestradiol 1232-80-0, 2-Hydroxyestriol 1851-23-6,
5β-Androstane-3α,17β-diol 1852-53-5,
5α-Androstane-3α,17β-diol 1977-10-2, Loxapine
2052-63-3, 13-cis Retinol 2102-59-2 2216-51-5, (-)-Menthol
2216-52-6, (+)-Neomenthol 2217-02-9, (1R)-Endo Fenchyl alcohol
2321-07-5 2784-27-2, 5-(p-Hydroxyphenyl)-5-phenylhydantoin 3131-23-5,
4-Hydroxyestrone 3313-26-6, cis-Thiothixene 5976-61-4,
4-Hydroxyestradiol 6104-71-8, Desmethyl clozapine 6665-86-7,
7-Hydroxyflavone 6893-02-3, T3 7291-49-8, 6α-Hydroxyestriol
10236-47-2, Naringin 13721-01-2D, hydroxy analogs 14167-50-1,
5β-Androstane-3α,16α-diol-17-one 15356-60-2,
(+)-Menthol 15687-27-1, Ibuprofen 16590-41-3, Naltrexone 20685-55-6,
5β-Androstane-3α,11β,17β-triol 22204-53-1
22494-42-4, Diflunisal 23283-97-8, (+)-Isomenthol 26093-31-2,
7-Amino-4-methylcoumarin 29679-58-1, Fenoprofen 30074-03-4,
5-(m-Hydroxyphenyl)-5-phenylhydantoin 32212-61-6, 5β-Androstane-
3α,11α,17β-triol 32212-64-9, 5α-Androstane-
3α,11β,17β-triol 32212-65-0, 5α-Androstane-
3β,11β,17β-triol 35836-73-8, (-)-Nopol 50679-08-8,
Terfenadine 52485-79-7, Buprenorphine 65165-99-3, (+)-Morphine
114798-26-4, Losartan
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL
(Biological study); PROC (Process)
(glucuronidation of amines and hydroxylated xenobiotics and endobiotics
catalyzed by expressed human UDP-glucuronosyltransferase 1.4 protein
and its response to detergents)

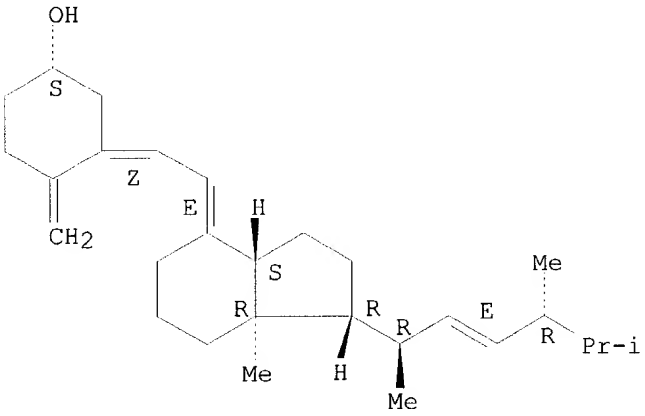
IT 5786-21-0, Clozapine
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL
(Biological study); PROC (Process)
(metabolites; glucuronidation of amines and hydroxylated xenobiotics
and endobiotics catalyzed by expressed human UDP-
glucuronosyltransferase 1.4 protein and its response to detergents)

IT **50-14-6**, Vitamin D2 **53-43-0**, Dehydroepiandrosterone
67-97-0, Vitamin D3
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL

(Biological study); PROC (Process)
(glucuronidation of amines and hydroxylated xenobiotics and endobiotics catalyzed by expressed human UDP-glucuronosyltransferase 1.4 protein and its response to detergents)

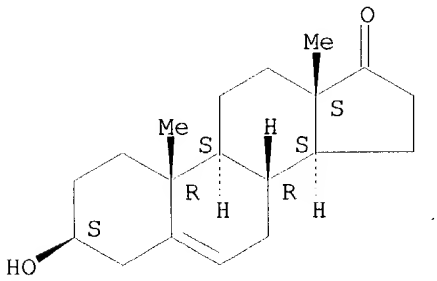
RN 50-14-6 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19),22-tetraen-3-ol, (3β,5Z,7E,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).
Double bond geometry as shown.



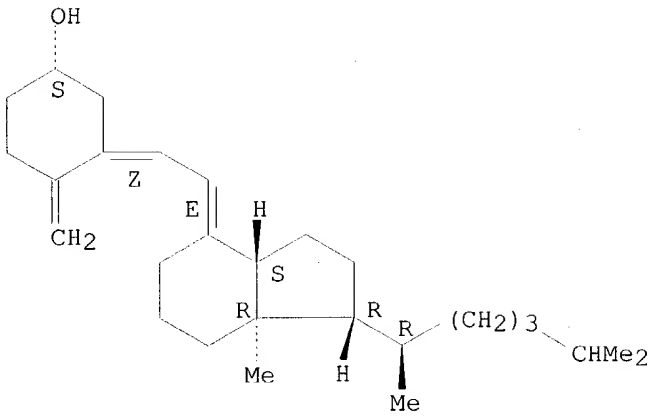
RN 53-43-0 HCAPLUS
CN Androst-5-en-17-one, 3-hydroxy-, (3β)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).



RN 67-97-0 HCAPLUS
CN 9,10-Secocholesta-5,7,10(19)-trien-3-ol, (3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



L68 ANSWER 16 OF 23 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1995:248787 HCAPLUS
DN 122:114921
ED Entered STN: 17 Dec 1994
TI Nucleic acid transfer peptides and their use for transfecting eukaryotic cells with nucleic acids
IN Surovoy, Andrej; Dannull, Jens; Moelling, Karin; Jung, Guenther-Gerhard
PA Boehringer Mannheim GmbH, Germany
SO PCT Int. Appl., 77 pp.
CODEN: PIXXD2
DT Patent
LA German
IC ICM A61K047-48
ICS C12N015-78
CC 63-6 (Pharmaceuticals)
Section cross-reference(s): 34
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9423751	A1	19941027	WO 1994-EP1147	19940413 <--
	W: AU, CA, FI, HU, JP, KR, NO, NZ, US				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	AU 9465685	A1	19941108	AU 1994-65685	19940413 <--
	DE 4412629	A1	19950126	DE 1994-4412629	19940413 <--
	EP 693939	A1	19960131	EP 1994-913594	19940413 <--
	R: AT, BE, CH, DE, FR, GB, IT, LI				
PRAI	DE 1993-4312131		19930414 <--		
	DE 1993-4318470		19930603 <--		
	WO 1994-EP1147		19940413 <--		

AB A nucleic acid transfer peptide contains: (a) a 1st ligand comprising a peptide, steroid, carbohydrate, lipid, or vitamin which binds to a binding partner at the surface of eukaryotic cells, triggering endocytosis of the complex composed of the nucleic acid transfer peptide and a nucleic acid; (b) a 2nd ligand comprising a peptide, steroid, carbohydrate, lipid, or vitamin which binds to a binding partner on the outer membrane of the nucleus of eukaryotic cells; (c) a 3rd ligand which is a basic peptide and binds to nucleic acids by ion exchange. These peptides are useful for injecting nucleic acids into eukaryotic cells. Thus, the proliferation of Capan-1 human adenocarcinoma cells was inhibited by transformation with a mutant Ki-Ras ribozyme complexed with peptide AcRGD-1-35 (sequence given).

ST nucleate transfer peptide injection eukaryote cell

IT Lipopeptides
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(basic; nucleic acid transfer peptides for transfecting eukaryotic cells with nucleic acids)

IT Receptors
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(for ligand-peptide **conjugates**; nucleic acid transfer peptides for transfecting eukaryotic cells with nucleic acids)

IT Estrogen receptors
Integrins
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(ligands for, **conjugates** with basic peptides; nucleic acid transfer peptides for transfecting eukaryotic cells with nucleic acids)

IT Immunostimulants
Neoplasm inhibitors
Transformation, genetic
(nucleic acid transfer peptides for transfecting eukaryotic cells with nucleic acids)

IT Deoxyribonucleic acids
Gene
Genetic vectors
Nucleic acids
Nucleopeptides
Nucleoproteins
Ribonucleic acids
Ribozymes
RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(nucleic acid transfer peptides for transfecting eukaryotic cells with nucleic acids)

IT Proteins, biological studies
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(of cell membrane; nucleic acid transfer peptides for transfecting eukaryotic cells with nucleic acids)

IT Cell nucleus
(receptors for ligand-peptide **conjugates** on membrane of; nucleic acid transfer peptides for transfecting eukaryotic cells with nucleic acids)

IT Cell membrane
(receptors for ligand-peptide **conjugates** on; nucleic acid transfer peptides for transfecting eukaryotic cells with nucleic acids)

IT Virus, animal
(treatment of infection with; nucleic acid transfer peptides for transfecting eukaryotic cells with nucleic acids)

IT Blood-group substances
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(Lex, **conjugates** with basic peptides; nucleic acid transfer peptides for transfecting eukaryotic cells with nucleic acids)

IT Glycopeptides

Peptides, biological studies
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(basic, nucleic acid transfer peptides for transfecting eukaryotic cells with nucleic acids)

IT Ligands
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(**conjugated**, with basic peptides; nucleic acid transfer peptides for transfecting eukaryotic cells with nucleic acids)

IT Androgens
Estrogens
Fatty acids, biological studies
Steroids, biological studies
Vitamins
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(**conjugates**, with basic peptides; nucleic acid transfer peptides for transfecting eukaryotic cells with nucleic acids)

IT Organelle
(endocytic vesicle, lysis after endocytosis; nucleic acid transfer peptides for transfecting eukaryotic cells with nucleic acids)

IT Biological transport
(endocytosis, nucleic acid transfer peptides for transfecting eukaryotic cells with nucleic acids)

IT Receptors
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(estrogen, ligands for, **conjugates** with basic peptides; nucleic acid transfer peptides for transfecting eukaryotic cells with nucleic acids)

IT Therapeutics
(geno-, nucleic acid transfer peptides for transfecting eukaryotic cells with nucleic acids)

IT Sialoglycoprotein receptors
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(gp120env, ligands for, **conjugates** with basic peptides; nucleic acid transfer peptides for transfecting eukaryotic cells with nucleic acids)

IT Receptors
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(sialoglycoprotein gp120env, ligands for, **conjugates** with basic peptides; nucleic acid transfer peptides for transfecting eukaryotic cells with nucleic acids)

IT Gene, microbial
RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(v-myb, cDNA to; nucleic acid transfer peptides for transfecting eukaryotic cells with nucleic acids)

IT 159845-55-3 159845-56-4 159845-57-5
RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)

(nucleic acid transfer peptides for transfecting eukaryotic cells with nucleic acids)

IT 159699-63-5P 160046-83-3P 160046-86-6P 160046-94-6P 160046-96-8P
160046-99-1P 160047-00-7P 160047-02-9P 160047-07-4P 160047-08-5P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(nucleic acid transfer peptides for transfecting eukaryotic cells with nucleic acids)

IT 57-83-0D, Pregn-4-ene-3,20-dione, **conjugates** with basic peptides
59-23-4D, Galactose, **conjugates** with basic peptides
67-97-0D, Vitamin D3, **conjugates** with basic peptides
506-32-1D, Arachidonic acid, **conjugates** with basic peptides
3672-15-9D, Mannose 6-phosphate, **conjugates** with basic peptides
11103-57-4D, Vitamin A, **conjugates** with basic peptides
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(nucleic acid transfer peptides for transfecting eukaryotic cells with nucleic acids)

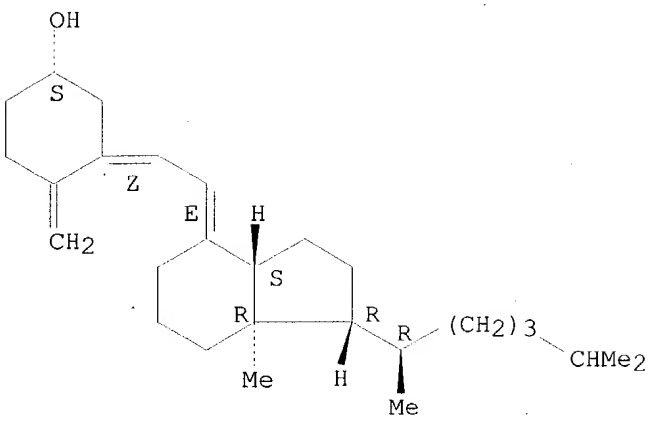
IT 63-42-3 35048-47-6 129460-09-9 160046-88-8
RL: RCT (Reactant); RACT (Reactant or reagent)
(nucleic acid transfer peptides for transfecting eukaryotic cells with nucleic acids)

IT 156409-40-4P 159857-00-8P 159857-01-9P 159857-02-0P 159857-03-1P
159857-04-2P 159857-05-3P 159857-06-4P 159857-07-5P 159857-08-6P
159857-09-7P 159990-69-9P 160046-71-9P 160047-03-0P 160047-04-1P
160047-06-3P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(nucleic acid transfer peptides for transfecting eukaryotic cells with nucleic acids)

IT **67-97-0D**, Vitamin D3, **conjugates** with basic peptides
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(nucleic acid transfer peptides for transfecting eukaryotic cells with nucleic acids)

RN 67-97-0 HCAPLUS
CN 9,10-Secocholesta-5,7,10(19)-trien-3-ol, (3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



L68 ANSWER 17 OF 23 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1995:234794 HCAPLUS
DN 122:23858
ED Entered STN: 10 Dec 1994
TI Treatment of osteoporosis with opioids, opioid-degrading enzyme inhibitors, enkephalin secretagogues, and mixtures thereof
IN D' Souza, Sharyn Mary; Ibbotson, Kenneth John
PA Procter and Gamble Co., USA
SO PCT Int. Appl., 67 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM A61K031-00
ICS A61K037-64; A61K037-02
CC 1-10 (Pharmacology)
Section cross-reference(s): 2, 7, 63
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9421242	A1	19940929	WO 1994-US2304	19940302 <--
	W: AU, BB, BG, BR, BY, CA, CN, CZ, FI, HU, JP, KP, KR, KZ, LK, LV, MG, MN, MW, NO, NZ, PL, RO, RU, SD, SI, SK, UA, UZ, VN				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
	AU 9462530	A1	19941011	AU 1994-62530	19940302 <--
PRAI	US 1993-34930		19930319 <--		
	WO 1994-US2304		19940302 <--		

OS MARPAT 122:23858
AB Osteoporosis is treated in a human or other animal subject by administering a safe and effective amount of an active agent selected from the group consisting of opioids, opioid-degrading enzyme inhibitors, enkephalin secretagogues, and mixts. thereof. Thiorphan inhibited substrate degradation by enkephalinase and stimulated proliferation of osteoblast-like cells. A human female subject suffering from postmenopausal osteoporosis was treated for 2 yr with thiorphan in a cyclical regimen where each cycle consisted of an active period of 28 days with thiorphan administration followed by a nonactive period of 28 days with administration of a daily supplement of calcium. A tablet and an i.v. injection formulation are given.
ST osteoporosis treatment opioid enkephalin secretagogue; enkephalinase

inhibitor osteoporosis treatment
IT Estrogens
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(as nonactive agent in therapeutic composition; osteoporosis treatment with opioids, opioid-degrading enzyme inhibitors, enkephalin secretagogues, and mixts. thereof)
IT Peptides, biological studies
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(enkephalin secretagogues; osteoporosis treatment with opioids, opioid-degrading enzyme inhibitors, enkephalin secretagogues, and mixts. thereof)
IT Enzymes
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(opioid-degrading, inhibitors; osteoporosis treatment with opioids, opioid-degrading enzyme inhibitors, enkephalin secretagogues, and mixts. thereof)
IT Osteoporosis
Pharmaceutical dosage forms
(osteoporosis treatment with opioids, opioid-degrading enzyme inhibitors, enkephalin secretagogues, and mixts. thereof)
IT Opioids
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(osteoporosis treatment with opioids, opioid-degrading enzyme inhibitors, enkephalin secretagogues, and mixts. thereof)
IT Enkephalins
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(secretagogues; osteoporosis treatment with opioids, opioid-degrading enzyme inhibitors, enkephalin secretagogues, and mixts. thereof)
IT **Estrogens**
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(**conjugates**, as nonactive agent in therapeutic composition; osteoporosis treatment with opioids, opioid-degrading enzyme inhibitors, enkephalin secretagogues, and mixts. thereof)
IT Pharmaceutical dosage forms
(injections, i.v., osteoporosis treatment with opioids, opioid-degrading enzyme inhibitors, enkephalin secretagogues, and mixts. thereof)
IT Osteoporosis
(postmenopausal, osteoporosis treatment with opioids, opioid-degrading enzyme inhibitors, enkephalin secretagogues, and mixts. thereof)
IT Pharmaceutical dosage forms
(tablets, osteoporosis treatment with opioids, opioid-degrading enzyme inhibitors, enkephalin secretagogues, and mixts. thereof)
IT Opioid receptors
RL: BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(δ-, peptide binding to; osteoporosis treatment with opioids, opioid-degrading enzyme inhibitors, enkephalin secretagogues, and mixts. thereof)
IT Receptors
RL: BPR (Biological process); BSU (Biological study, unclassified); THU

(Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(δ-opioid, peptide binding to; osteoporosis treatment with opioids, opioid-degrading enzyme inhibitors, enkephalin secretagogues, and mixts. thereof)

IT Opioid receptors
RL: BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(μ-, peptide binding to; osteoporosis treatment with opioids, opioid-degrading enzyme inhibitors, enkephalin secretagogues, and mixts. thereof)

IT Receptors
RL: BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(μ-opioid, peptide binding to; osteoporosis treatment with opioids, opioid-degrading enzyme inhibitors, enkephalin secretagogues, and mixts. thereof)

IT **67-97-0**, Vitamin D3 520-85-4, Medroxyprogesterone 7440-70-2, Calcium, biological studies **9007-12-9**, Calcitonin 13598-36-2D, Phosphonic acid, alkylidenebis- derivs.
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(as nonactive agent in therapeutic composition; osteoporosis treatment with opioids, opioid-degrading enzyme inhibitors, enkephalin secretagogues, and mixts. thereof)

IT 159557-51-4
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(enkephalin peptide; osteoporosis treatment with opioids, opioid-degrading enzyme inhibitors, enkephalin secretagogues, and mixts. thereof)

IT 61090-95-7 63307-63-1 63631-40-3 64854-64-4 65189-64-2 70904-56-2 75644-90-5 77405-98-2 77702-18-2 78123-71-4 100111-01-1 111035-56-4 114414-60-7 123689-66-7 151371-18-5
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(enkephalin secretagogue; osteoporosis treatment with opioids, opioid-degrading enzyme inhibitors, enkephalin secretagogues, and mixts. thereof)

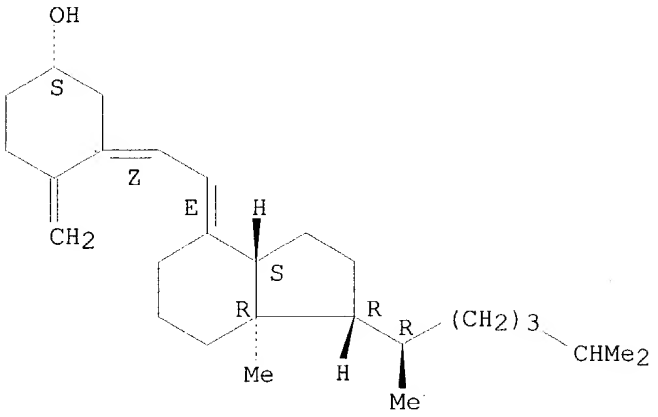
IT 96098-73-6, Enkephalinase
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(inhibitor peptides; osteoporosis treatment with opioids, opioid-degrading enzyme inhibitors, enkephalin secretagogues, and mixts. thereof)

IT 76721-89-6 81110-73-8 83998-04-3 93243-18-6 118867-26-8 120377-48-2 135949-60-9 159557-52-5 159557-53-6 159557-54-7 159557-55-8
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(opioid-degrading enzyme inhibitor; osteoporosis treatment with opioids, opioid-degrading enzyme inhibitors, enkephalin secretagogues, and mixts. thereof)

IT **67-97-0**, Vitamin D3 **9007-12-9**, Calcitonin
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(as nonactive agent in therapeutic composition; osteoporosis treatment with opioids, opioid-degrading enzyme inhibitors, enkephalin secretagogues,

and mixts. thereof)
RN 67-97-0 HCAPLUS
CN 9,10-Secocholesta-5,7,10(19)-trien-3-ol, (3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



RN 9007-12-9 HCAPLUS
CN Calcitonin (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L68 ANSWER 18 OF 23 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1994:596226 HCAPLUS
DN 121:196226
ED Entered STN: 29 Oct 1994
TI The short term effects of **conjugated** estrogen on bone turnover in older women
AU Prestwood, Karen M.; Pilbeam, Carol C.; Burleson, Joseph A.; Woodiel, Florence N.; Delmas, Pierre D.; Deftos, Leonard J.; Raisz, Lawrence G.
CS Health Center, University of Connecticut, Farmington, CT, 06030, USA
SO Journal of Clinical Endocrinology and Metabolism (**1994**), 79(2), 366-71
CODEN: JCEMAZ; ISSN: 0021-972X
DT Journal
LA English
CC 2-4 (Mammalian Hormones)
AB Estrogen replacement therapy (ERT) prevents bone loss and fracture in early postmenopausal women, but its benefit for women over 70 yr of age has not been determined The authors have examined the effect of a short course of ERT on biochem. markers of bone turnover in older women. Eleven women (mean age, 77 yr) were given **conjugated** estrogen (Premarin; 0.625 mg/day) for 6 wk. Biochem. markers were measured on serum and urine collected at baseline (2 samples), after 5 and 6 wk of ERT, and 5 and 6 wk post-ERT. Markers of bone formation were osteocalcin, bone alkaline phosphatase, and type I procollagen peptide. Markers of bone resorption were total urinary hydroxyproline, total and free pyridinoline and deoxypyridinoline cross-links, type I collagen cross-linked N-telopeptides, and serum C-terminal cross-linked telopeptide. Data were analyzed by repeated measures multivariate anal. of variance to estimate the overall effect of ERT on the biochem. markers. Markers of bone resorption

decreased during ERT and returned to baseline after ERT. Markers of bone formation declined less during ERT and continued to decline after ERT. Evidently, ERT reduces bone turnover in older women and markers of bone turnover may be useful in assessing the response to treatment in this age group.

ST estrogen **conjugate** bone metab elderly woman

IT Bone
Resorption
(short-term effects of **conjugated** estrogen on bone turnover in older women)

IT **Estrogens**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(**conjugates**, short-term effects of **conjugated** estrogen on bone turnover in older women)

IT Senescence
(elderly, short-term effects of **conjugated** estrogen on bone turnover in older women)

IT 7440-70-2, Calcium, biological studies 7723-14-0, Phosphorus, biological studies
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(short-term effects of **conjugated** estrogen on bone turnover and serum, in older women)

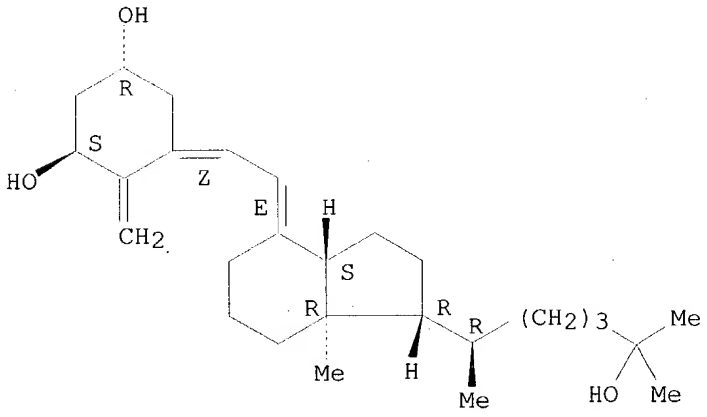
IT 9002-64-6, Parathormone **32222-06-3**, Calcitriol
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(short-term effects of **conjugated** estrogen on bone turnover and, in older women)

IT **32222-06-3**, Calcitriol
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(short-term effects of **conjugated** estrogen on bone turnover and, in older women)

RN 32222-06-3 HCAPLUS

CN 9,10-Secocholesta-5,7,10(19)-triene-1,3,25-triol, (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).
Double bond geometry as shown.



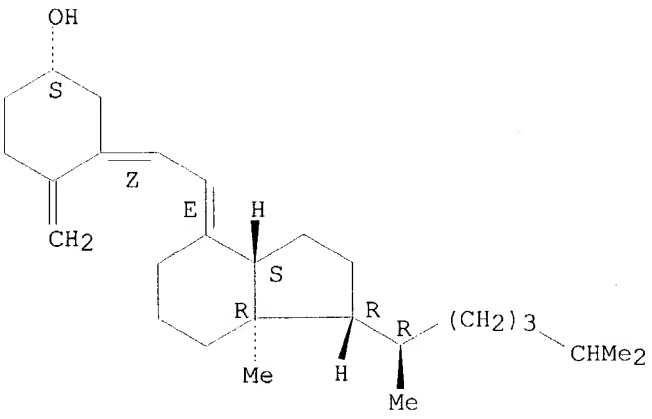
L68 ANSWER 19 OF 23 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1993:109737 HCAPLUS
DN 118:109737
ED Entered STN: 19 Mar 1993
TI Mineral and vitamin supplements for building bone
IN Andon, Mark Benson
PA Procter and Gamble Co., USA
SO PCT Int. Appl., 39 pp.
CODEN: PIXXD2
DT Patent
LA English
IC A61K033-06; A61K033-30; A61K033-32; A61K033-34; A61K033-59
CC 63-6 (Pharmaceuticals)
Section cross-reference(s): 18
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE	
PI	WO 9221355	A1	19921210	WO 1992-US3995	19920515	<--
	W: AU, BB, BG, BR, CA, CS, FI, HU, JP, KP, KR, LK, MG, MN, MW, NO, PL, RO, RU, SD					
	RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, DE, DK, ES, FR, GA, GB, GN, GR, IT, LU, MC, ML, MR, NL, SE, SN, TD, TG					
	AU 9219968	A1	19930108	AU 1992-19968	19920515	<--
	AU 666654	B2	19960222			
	EP 586521	A1	19940316	EP 1992-912201	19920515	<--
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE					
	BR 9206072	A	19941115	BR 1992-6072	19920515	<--
	HU 66379	A2	19941128	HU 1993-3364	19920515	<--
	CZ 281823	B6	19970212	CZ 1993-2553	19920515	<--
	CA 2109958	C	19970610	CA 1992-2109958	19920515	<--
	NO 9304282	A	19940128	NO 1993-4282	19931126	<--
PRAI	US 1991-705832		19910528	<--		
	WO 1992-US3995		19920515	<--		

AB Mineral and vitamin supplements comprising Ca citrate malate (I), salts of Mn, Cu, Zn, vitamin D or its metabolites or precursors, calcitonin, editronate, diphosphonate and amino-diphosphonates are useful for increasing bone growth and for treating age-related bone loss in humans and animals. The supplements which provide ≥ 25% of recommended dietary allowance of Ca, trace minerals and vitamins, are used in addition to the normal diet. A tablet contained I 2000, $CuSO_4$ 6.3, $ZnCl_2$ 31.3, $MnSO_4 \cdot H_2O$ 15.4 mg. The tablet is taken in a daily regimen with 2 mg/kg of didronel for 6 mo.
ST mineral vitamin supplement salt calcitonin; tablet calcium copper zinc manganese
IT Vitamins
RL: BIOL (Biological study)
(supplements containing minerals and calcitonin and, for bone growth)
IT Mineral elements
RL: BIOL (Biological study)
(supplements containing vitamins and calcitonin and, for bone growth)
IT Estrogens
RL: BIOL (Biological study)
(supplements containing vitamins and minerals and, for bone growth)
IT Pharmaceutical dosage forms
(capsules, of mineral and vitamin supplement, for bone growth)
IT **Estrogens**
RL: BIOL (Biological study)
(**conjugates**, supplements containing vitamins and minerals and,

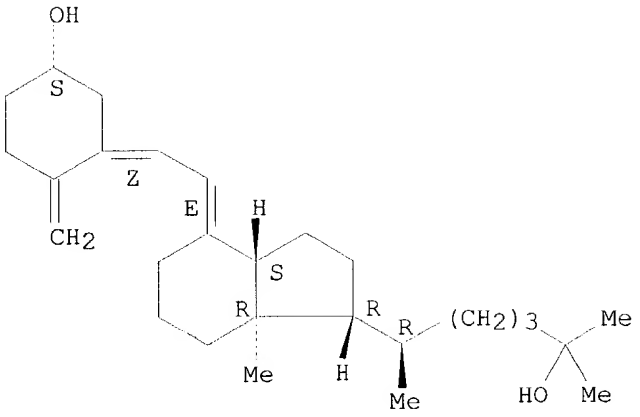
for bone growth)
IT Bone, disease
(demineralization, treatment of, supplements containing minerals and vitamins and calcitonin for)
IT Menopause
(post-, treatment of, with mineral and vitamin supplements)
IT Pharmaceutical dosage forms
(tablets, of mineral and vitamin supplement, for bone growth)
IT **67-97-0**, Vitamin D3 1406-16-2, Vitamin D **19356-17-3 32222-06-3 54573-75-0**
RL: BIOL (Biological study)
(supplements containing minerals and calcitonin and, for bone growth)
IT 2817-45-0D, Aminophosphonic acid, salts 7414-83-7 **9007-12-9**, Calcitonin
RL: BIOL (Biological study)
(supplements containing minerals and vitamins and, for bone growth)
IT 527-09-3, Copper gluconate 557-04-0, Magnesium stearate 4468-02-4, Zinc gluconate 6485-39-8, Manganese gluconate 7646-85-7, Zinc chloride, biological studies 7733-02-0, Zinc sulfate 7758-98-7, Copper sulfate, biological studies 10034-96-5, Manganese sulfate monohydrate 142606-53-9
RL: BIOL (Biological study)
(supplements containing vitamins and calcitonin and, for bone growth)
IT **67-97-0**, Vitamin D3 **19356-17-3 32222-06-3 54573-75-0**
RL: BIOL (Biological study)
(supplements containing minerals and calcitonin and, for bone growth)
RN 67-97-0 HCAPLUS
CN 9,10-Secocholesta-5,7,10(19)-trien-3-ol, (3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



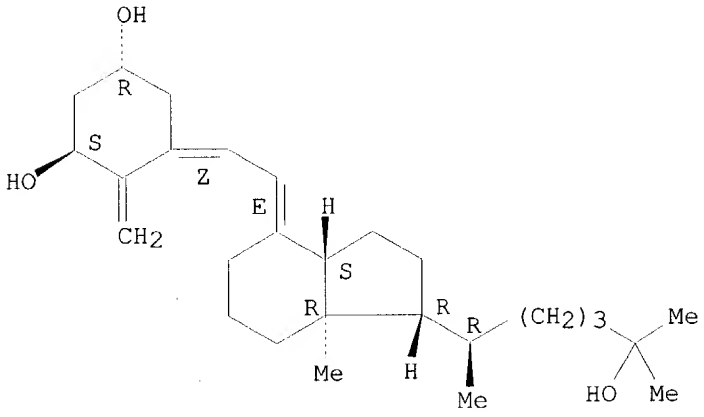
RN 19356-17-3 HCAPLUS
CN 9,10-Secocholesta-5,7,10(19)-triene-3,25-diol, (3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



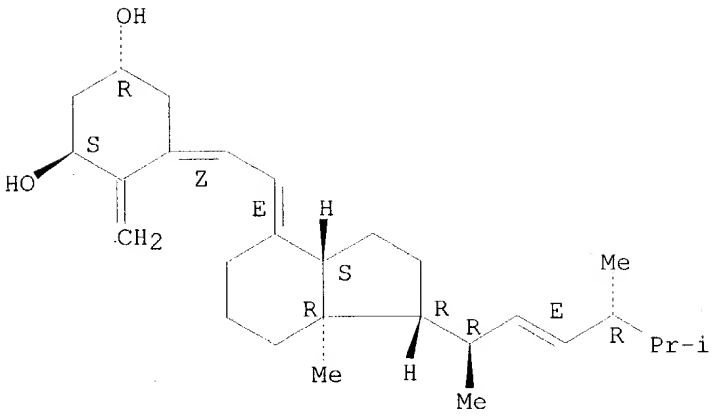
RN 32222-06-3 HCAPLUS
CN 9,10-Secocholesta-5,7,10(19)-triene-1,3,25-triol, (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).
Double bond geometry as shown.



RN 54573-75-0 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19),22-tetraene-1,3-diol, (1α,3β,5Z,7E,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



IT **9007-12-9**, Calcitonin
RL: BIOL (Biological study)
(supplements containing minerals and vitamins and, for bone growth)
RN 9007-12-9 HCAPLUS
CN Calcitonin (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L68 ANSWER 20 OF 23 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1992:136245 HCAPLUS
DN 116:136245
ED Entered STN: 03 Apr 1992
TI Sustained-release pharmaceutical composition containing fluorophosphate and estrogen for treating osteoporosis and hormonal imbalance
IN Grodberg, Marcus G.
PA Colgate-Palmolive Co., USA
SO U.S., 5 pp.
CODEN: USXXAM
DT Patent
LA English
IC ICM A61K009-22
ICS A61K009-26; A61K007-18; A61K033-16
NCL 514171000
CC 63-6 (Pharmaceuticals)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5013728	A	19910507	US 1990-519088	19900504 <--
	AU 9175914	A1	19911107	AU 1991-75914	19910424 <--
	AU 647111	B2	19940317		
	ZA 9103184	A	19921230	ZA 1991-3184	19910426 <--
	FI 9102160	A	19911105	FI 1991-2160	19910503 <--
	CA 2041799	AA	19911105	CA 1991-2041799	19910503 <--
	EP 455503	A1	19911106	EP 1991-304021	19910503 <--
	R: AT, BE, CH, DE, DK, ES, FR, GB, IT, LI, LU, NL, SE				
	BR 9101787	A	19911217	BR 1991-1787	19910503 <--
	JP 04225921	A2	19920814	JP 1991-101491	19910507 <--
PRAI	US 1990-519088		19900504 <--		

AB A sustained-release pharmaceutical composition for the prevention and treatment of bone loss diseases comprises Na2FPO3 (I) and an estrogen-containing substance. A sustained-release tablet contained I 76.0, Et cellulose 8.0,

HPMC 7.0, hydrogenated vegetable oil 1.0, Na naphthalenesulfonic acid-formaldehyde condensate (Tamol N) 1.0, and **conjugated** estrogen 0.5 mg.

ST sustained release tablet fluorophosphate estrogen

IT Osteoporosis
(treatment of, with sustained-release composition containing fluorophosphate and estrogen)

IT Pharmaceutical dosage forms
(capsules, sustained-release, fluorophosphate and estrogen in)

IT **Estrogens**
RL: BIOL (Biological study)
(**conjugates**, sustained-release pharmaceutical composition containing fluorophosphate and)

IT Bone, disease
(demineralization, treatment of, with sustained-release composition containing fluorophosphate and estrogen)

IT Estrogens
RL: BIOL (Biological study)
(hydroxy, esters, sustained-release pharmaceutical composition containing fluorophosphate and)

IT Pharmaceutical dosage forms
(lozenges, sustained-release, fluorophosphate and estrogen in)

IT Pharmaceutical dosage forms
(tablets, sustained-release, fluorophosphate and estrogen in)

IT 10163-15-2, Sodium monofluorophosphate
RL: BIOL (Biological study)
(sustained-release pharmaceutical composition containing estrogen and)

IT 7681-49-4, Sodium fluoride, biological studies
RL: BIOL (Biological study)
(sustained-release pharmaceutical composition containing estrogen and sodium monofluorophosphate and)

IT 50-28-2, Estradiol, biological studies 50-28-2D, Estradiol, derivs.
RL: BIOL (Biological study)
(sustained-release pharmaceutical composition containing fluorophosphate and)

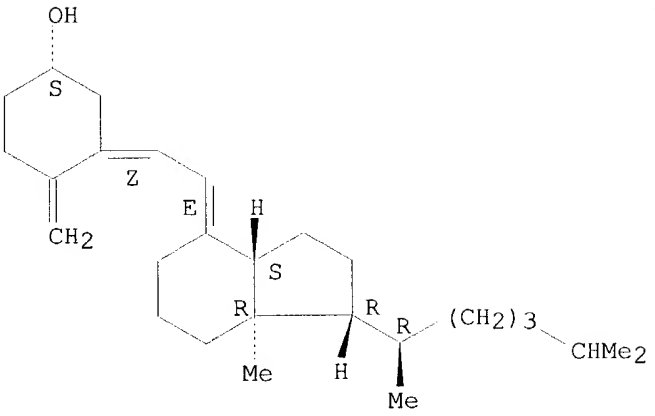
IT **67-97-0**, Vitamin D3 7440-70-2, Calcium, biological studies
9004-57-3, Ethyl cellulose 9004-65-3, Hydroxypropyl methyl cellulose
32222-06-3, Calcitriol
RL: BIOL (Biological study)
(sustained-release pharmaceutical composition containing fluorophosphate and estrogen and)

IT **67-97-0**, Vitamin D3 **32222-06-3**, Calcitriol
RL: BIOL (Biological study)
(sustained-release pharmaceutical composition containing fluorophosphate and estrogen and)

RN 67-97-0 HCAPLUS

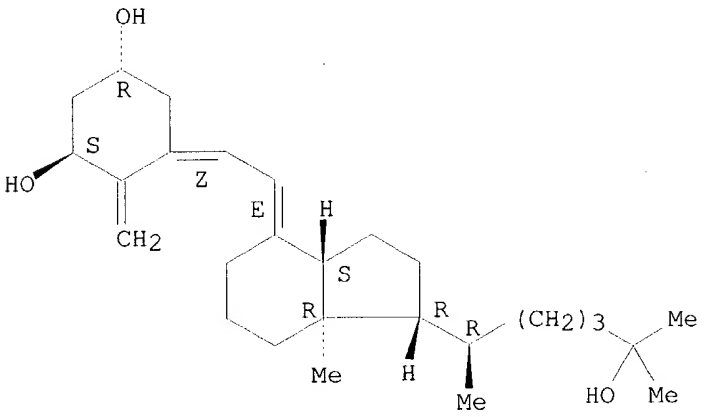
CN 9,10-Secocholesta-5,7,10(19)-trien-3-ol, (3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



RN 32222-06-3 HCAPLUS
CN 9,10-Secocholesta-5,7,10(19)-triene-1,3,25-triol, (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).
Double bond geometry as shown.



L68 ANSWER 21 OF 23 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1989:108442 HCAPLUS
DN 110:108442
ED Entered STN: 03 Apr 1989
TI Effects of estrogen on circulating "free" and total 1,25-dihydroxyvitamin D and on the parathyroid-vitamin D axis in postmenopausal women
AU Cheema, Chandan; Grant, Bill F.; Marcus, Robert
CS Dep. Med., Stanford Univ., Palo Alto, CA, 94305, USA
SO Journal of Clinical Investigation (**1989**), 83(2), 537-42
CODEN: JCINAO; ISSN: 0021-9738
DT Journal
LA English
CC 2-4 (Mammalian Hormones)
AB Treatment of postmenopausal women with **conjugated** estrogens at 1.25 mg/day for 30 days increased fasting total calcitriol from 38.5 to 62.3 pg/mL. This was accompanied by a rise in free calcitriol from 104.5

to 158.7 fg/mL. Vitamin D-binding protein increased from 348 to 428 μg/mL, and the ratio of calcitriol/DBP increased from 1.50 to 1.94, confirming the rise in free calcitriol. Increases in free calcitriol and in calcitriol/DBP ratios were significantly correlated, r = 0.72. Hypocalcemia led to a rapid increase in circulating immunoreactive parathyroid hormone, and to a rise in calcitriol at 24 h. The hypocalcemia-induced rise in total and free calcitriol was similar before and after estrogen, whether expressed as increments or as percent changes. Thus, estrogen increases circulating levels of biol. active free calcitriol in postmenopausal women, but a 30-day period of estrogen administration does not apparently improve the renal 1α-hydroxylase response to a PTH challenge.

ST estrogen calcitriol postmenopause; parathyroid vitamin D menopause estrogen

IT **Estrogens**
RL: BIOL (Biological study)
(**conjugates**, calcitriol of blood plasma response to, in postmenopausal women, parathyroid-vitamin D axis in relation to)

IT Menopause
(post-, calcitriol of blood plasma response to **conjugated** estrogen in, in women, parathyroid-vitamin D axis in relation to)

IT Proteins, specific or class
RL: BIOL (Biological study)
(vitamin D-binding, of blood plasma, **conjugated** estrogens effect on, in postmenopausal women, calcitriol in relation to)

IT 9002-64-6, Parathormone
RL: BIOL (Biological study)
(hydroxylase of kidney response to, in postmenopausal women, **conjugated** estrogen effect on, calcitriol in relation to)

IT 1406-16-2, Vitamin D
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(metabolism of, parathormone effect on, in postmenopausal women, **conjugated** estrogen modulation of, calcitriol in relation to)

IT 7440-70-2, Calcium, biological studies
RL: BIOL (Biological study)
(metabolic disorder, hypocalcemia, calcitriol and parathormone of blood plasma response to, in postmenopausal women, **conjugated** estrogen effect on)

IT **32222-06-3**
RL: BIOL (Biological study)
(of blood plasma, of postmenopausal women, **conjugated** estrogens effect on, parathyroid-vitamin D axis in relation to)

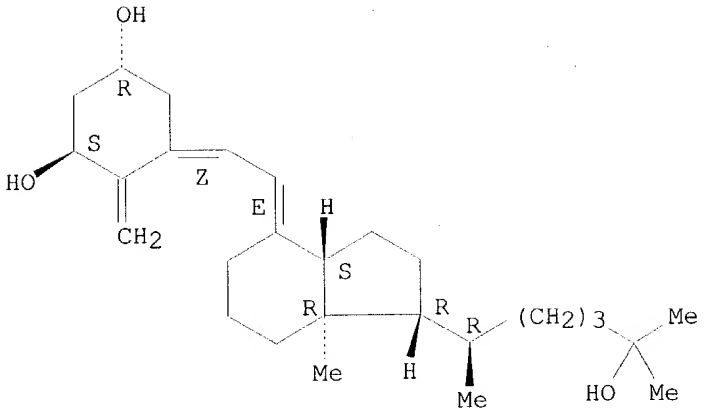
IT 9081-36-1
RL: BIOL (Biological study)
(of kidney, parathormone effect on, in postmenopausal women, **conjugated** estrogen modulation of, calcitriol in relation to)

IT **32222-06-3**
RL: BIOL (Biological study)
(of blood plasma, of postmenopausal women, **conjugated** estrogens effect on, parathyroid-vitamin D axis in relation to)

RN 32222-06-3 HCAPLUS

CN 9,10-Secocholesta-5,7,10(19)-triene-1,3,25-triol, (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

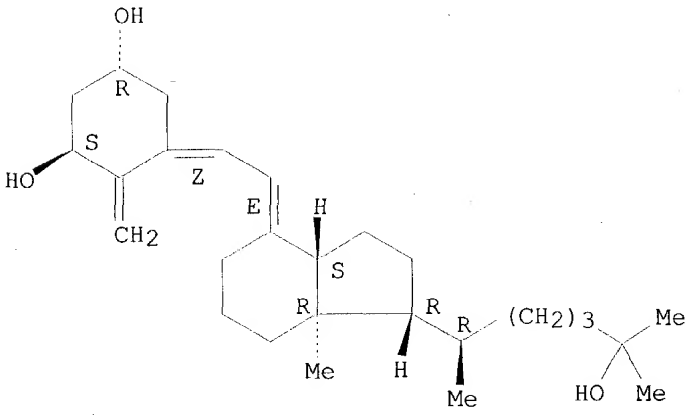
Absolute stereochemistry. Rotation (+).
Double bond geometry as shown.



L68 ANSWER 22 OF 23 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1985:554411 HCAPLUS
DN 103:154411
ED Entered STN: 16 Nov 1985
TI Estrogen and progestin effects on urinary calcium and calciotropic hormones in surgically-induced postmenopausal women
AU Lobo, R. A.; Roy, S.; Shoupe, D.; Endres, D. B.; Adams, J. S.; Rude, R. K.; Singer, F. R.
CS Sch. Med., Univ. Southern California, Los Angeles, CA, USA
SO Hormone and Metabolic Research (**1985**), 17(7), 370-3
CODEN: HMMRA2; ISSN: 0018-5043
DT Journal
LA English
CC 2-4 (Mammalian Hormones)
AB Seventeen surgically-induced postmenopausal (PM) women were randomized to receive either 0.625 mg of **conjugated** estrogens (CE) daily or 150 mg of i.m. medroxyprogesterone [520-85-4] as acetate (MPA) every 3 mo. Urinary Ca/creatinine ratios were higher than ratios of premenopausal controls before treatment, but were lower in all patients 2 mo after both types of treatment. Compared to controls, all PM patients had similar levels of serum parathormone and 25-hydroxyvitamin D before and after treatment. As a group PM patients had lower serum levels of 1,25-dihydroxyvitamin D [**32222-06-3**]. In 5 patients who had levels which were below the normal range, 3 were treated with CE and 2 received MPA. These patients all showed increases in 1,25-dihydroxyvitamin D after treatment. Serum calcitonin did not change with either CE or MPA treatment. Although both CE and MPA decreased Ca excretion in PM women, the mechanism(s) for these effects remain unsettled.
ST calcium excretion estrogen progestogen menopause
IT Menopause
(calcium of urine of women in, **conjugated** estrogens and medroxyprogesterone effect on)
IT Urine
(calcium of, of postmenopausal women, **conjugated** estrogens and medroxyprogesterone effect on)
IT **Estrogens**
RL: BIOL (Biological study)
(**conjugated**, calcium of urine response to, in postmenopausal women)

IT Blood serum
(dihydroxyvitamin D and estradiol of, of postmenopausal women, **conjugated** estrogens and medroxyprogesterone effect on)
IT 520-85-4
RL: BIOL (Biological study)
(calcium of urine response to, in postmenopausal women)
IT 50-28-2, biological studies **32222-06-3**
RL: BIOL (Biological study)
(of blood serum, of postmenopausal women, **conjugated** estrogens and medroxyprogesterone effect on)
IT 7440-70-2, biological studies
RL: BIOL (Biological study)
(of urine, of postmenopausal women, **conjugated** estrogens and medroxyprogesterone effect on)
IT **32222-06-3**
RL: BIOL (Biological study)
(of blood serum, of postmenopausal women, **conjugated** estrogens and medroxyprogesterone effect on)
RN 32222-06-3 HCAPLUS
CN 9,10-Secocholesta-5,7,10(19)-triene-1,3,25-triol, (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).
Double bond geometry as shown.



L68 ANSWER 23 OF 23 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1980:72172 HCAPLUS
DN 92:72172
ED Entered STN: 12 May 1984
TI Studies on antiserums against vitamin D metabolites
AU Schmidt-Gayk, H.; Mayer, E.; Schueer, R.; Lichtwald, K.; Bouillon, R.; Clemens, T. L.
CS Clin. Chem. Lab., Med. and Surg. Univ. Clin., Heidelberg, Fed. Rep. Ger.
SO Proceedings of the Workshop on Vitamin D (**1979**), 4th(Vitam. D: Basic Res. Its Clin. Appl.), 233-7
CODEN: PWVDDU; ISSN: 0721-7110
DT Journal
LA English
CC 9-5 (Biochemical Methods)
AB The hemisuccinates of vitamin D3 and of 25-hydroxy-vitamin D3 were prepared and reacted with serum albumin (BSA) and thyroglobulin (BTG) to form

conjugates. The vitamin/protein molar ratio was much higher for the BTG than for the BSA **conjugates**; however, antiserum prepared to the BTG-**conjugate** was not satisfactory. Antiserum prepared against a 25-monosuccinate of 1,25-dihydroxyvitamin D3 (I) was more sensitive than the antiserum to the 3-monohemisuccinate and the former was used in a sequential saturation radioimmunoassay for I.

ST vitamin D3 metabolite antiserum; radioimmunoassay vitamin D3 metabolite

IT Antiserums
(to vitamin D3 and metabolite **conjugates**)

IT Albumins, blood serum
Thyroglobulins
RL: PREP (Preparation)
(vitamin D3 and metabolite hemisuccinate reactions with, in antiserum preparation)

IT 67843-85-0D, **conjugates**
RL: ANST (Analytical study)
(antiserums to)

IT **32511-63-0**
RL: ANT (Analyte); ANST (Analytical study)
(determination of, antiserum for)

IT 1406-16-2D, metabolites
RL: ANT (Analyte); ANST (Analytical study)
(determination of, antiserums for)

IT 64889-68-5P
RL: PREP (Preparation)
(preparation of and protein **conjugate** formation by, in antiserum preparation)

IT 69511-19-9P
RL: PREP (Preparation)
(preparation of, and protein reaction with, in antiserum preparation)

IT **67-97-0**
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with succinic anhydride and protein **conjugates**, and antiserums to)

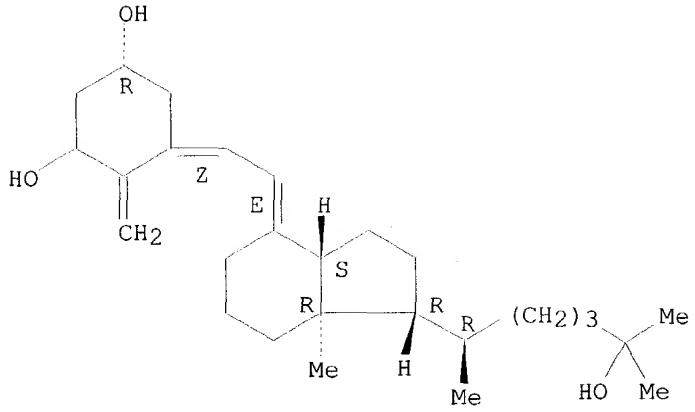
IT 108-30-5, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with vitamin D3 and metabolites, in antiserum preparation)

IT **32511-63-0**
RL: ANT (Analyte); ANST (Analytical study)
(determination of, antiserum for)

RN 32511-63-0 HCAPLUS

CN 9,10-Secocholesta-5,7,10(19)-triene-1,3,25-triol, (3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



IT **67-97-0**
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with succinic anhydride and protein **conjugates**, and antiserums to)
RN 67-97-0 HCAPLUS
CN 9,10-Secocholesta-5,7,10(19)-trien-3-ol, (3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.